PUNJAB TIANJIN UNIVERISITY OF TECHNOLOGY

LAB MANUALS

SOFTWARE CONFIGRATION MANGEMENT(LAB)

(1-14)

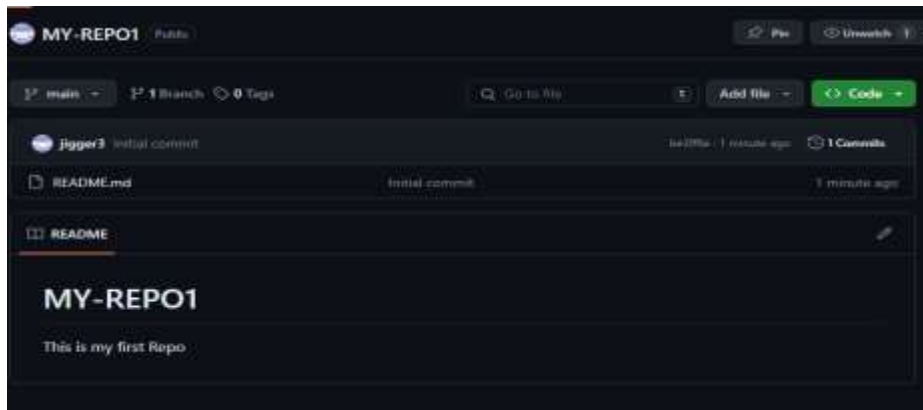| NAME	MUHAMMAD KHUBAIB
ROLL NO	23ST017
DEPARTMENT	SET-11
INSTRUCTOR	AFAQ AHMAD

NAME: MUHAMMAD KHUBAIB

ROLL NO: 23-ST-017

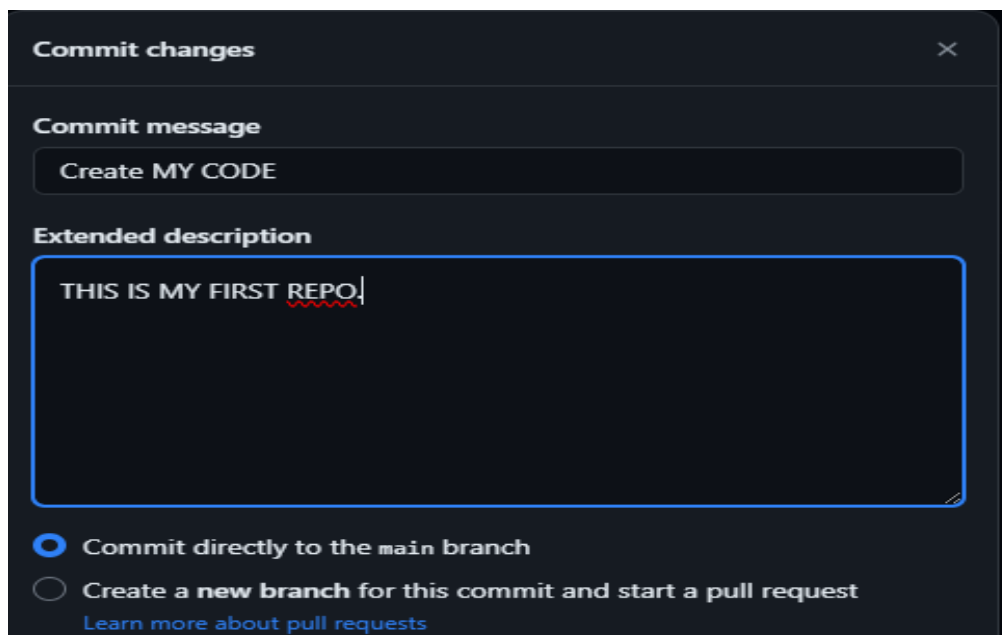**DEPARTMENT**: SOFTWARE ENGINEERING TECHNOLOGY

LAB1

1. **Create a repository named "My Repo" and check the box of "Add a README file".**

- In this I create a read me file and display its screenshot

2. Add any description to your repo.

- In this show the description of the repo.

3. Create a new file named "my_code". Display your name using the cout command. Press the "Commit Changes" button. This will save your settings.
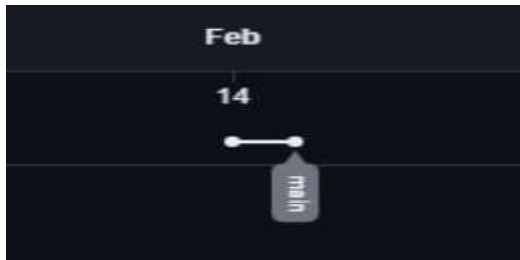
MY-REPO1 / **MY CODE**

jigger3 Update MY CODE

| Code | Blame | 2 lines (2 loc) · 88 Bytes | Code 55% faster with GitHub Copilot |

```
1    cout<<"MY NAME: "<<"MUHAMMMAD KHUBAIB"<<endl;
2    COUT<<"MY ROLL NO: "<<"23-SET-017"<<ENDL;
```
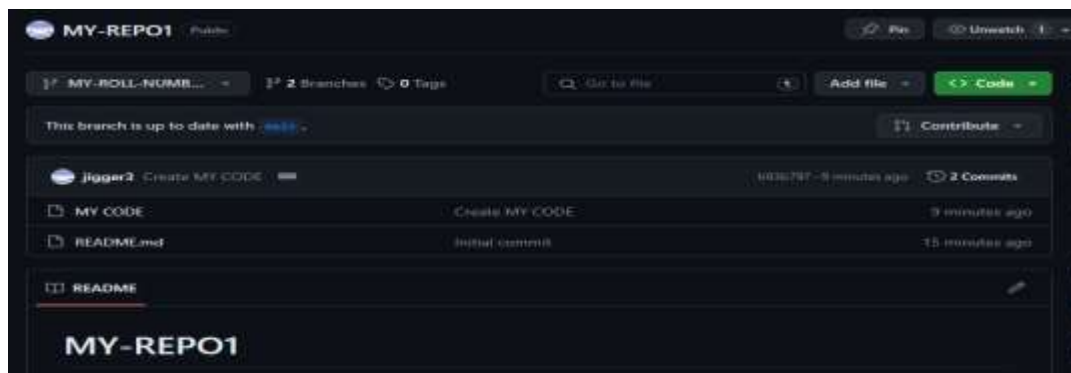
- In this I show the the name in the repo.
- In this we using C++.

4. Attach the Network graph of your repo.

Feb

14

main

- In this we attach the screen shot of master file of repo.
- This file created first.

5. Create a new branch named "Roll number". Attach the screenshot

MY-REPO1 Public

MY-ROLL-NUMB... 2 Branches 0 Tags   Go to file   Add file   <> Code

This branch is up to date with main.   Contribute

jigger3 Create MY CODE   9 minutes ago   2 Commits

MY CODE   Create MY CODE   9 minutes ago
README.md   Initial commit   15 minutes ago

README

MY-REPO1

- In this I attach the screenshot of "new branch Roll Number"

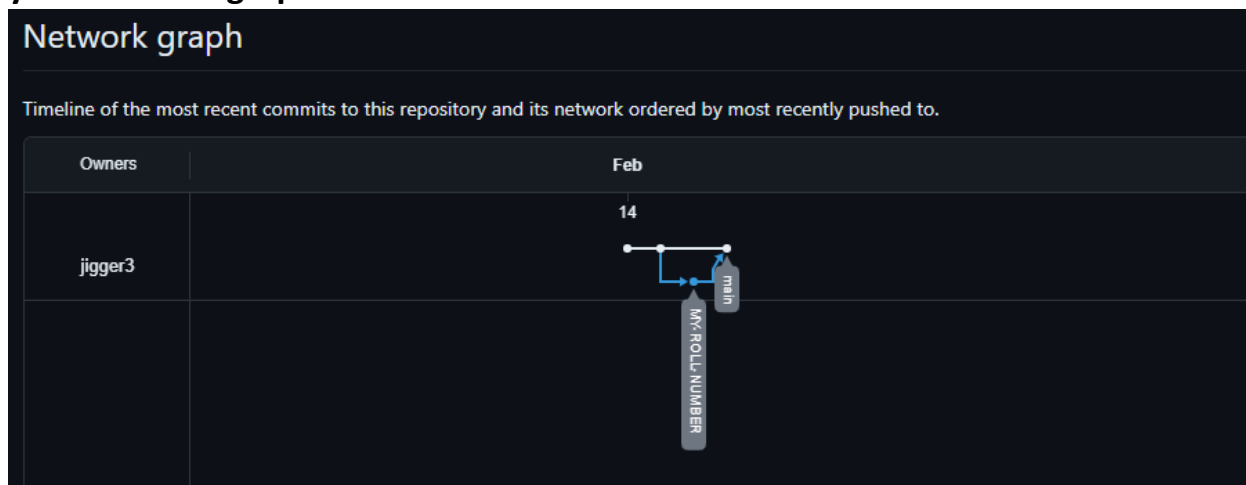**6. Go to your "Roll number" branch and add a new line in your code where you output your roll number using the cout command. Attach the network graph at this point.**
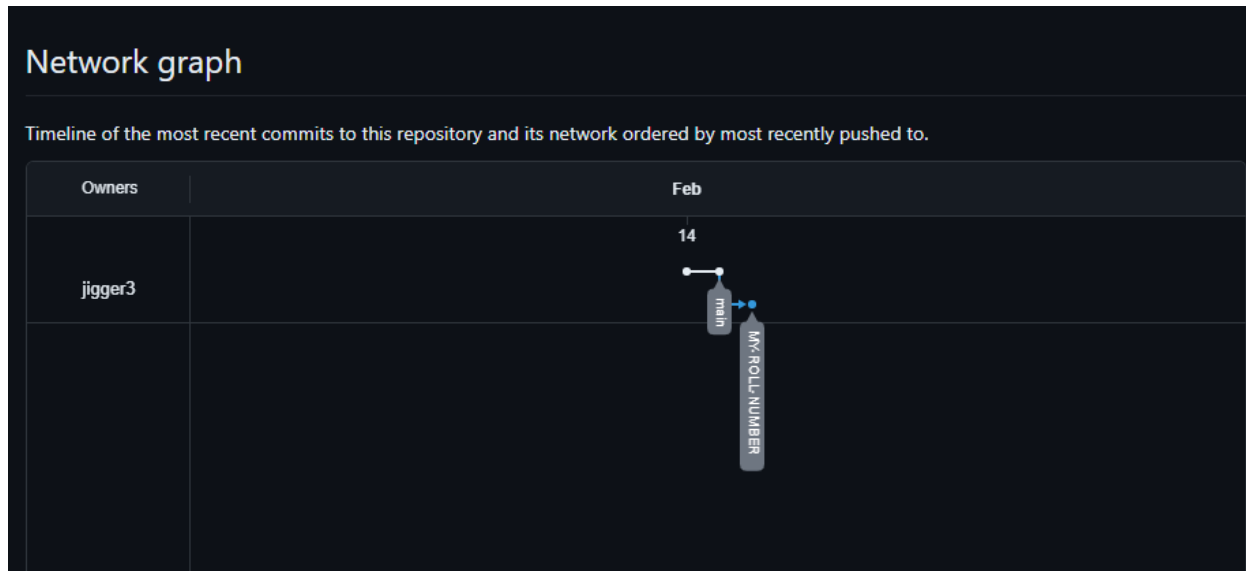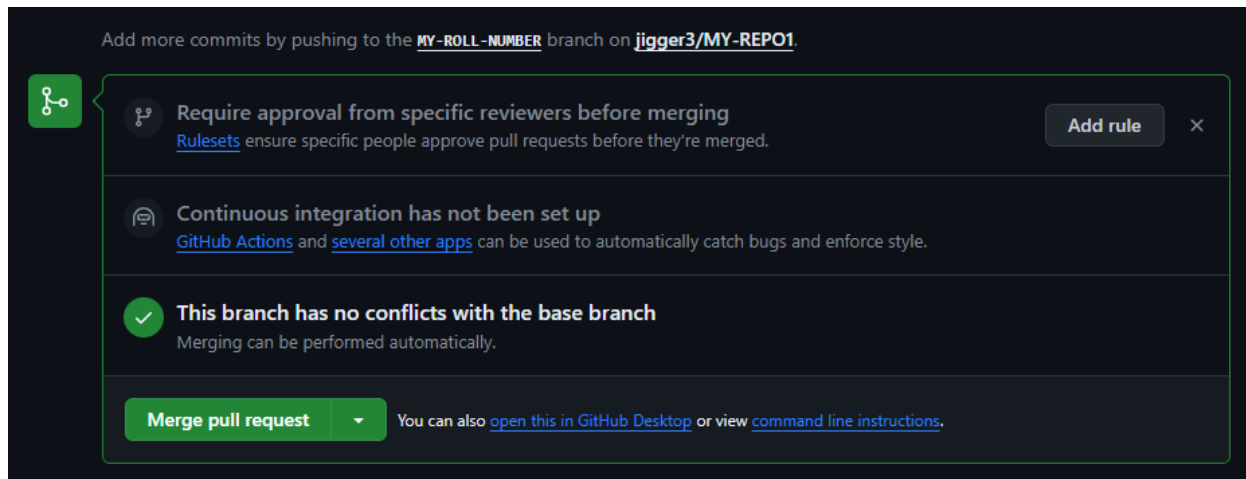

- In this I attach the screenshot of network graph adding with Roll Number.

7. Commit your changes to the Roll number branch and attach the screenshot of your network graph.

- In this attach the screenshot of network graph of commit your changing o to Roll No.

8. Now, commit your changes to the master branch by creating and merging a PULL Request. Attach the screenshot of you creating and merging the PULL Request from the "Roll number" branch to Master branch.

- In this I show the screenshot of pull request to merge master branch.

9. Attach the final screenshot of your network graph after creating a branch and merging it in the master branch.
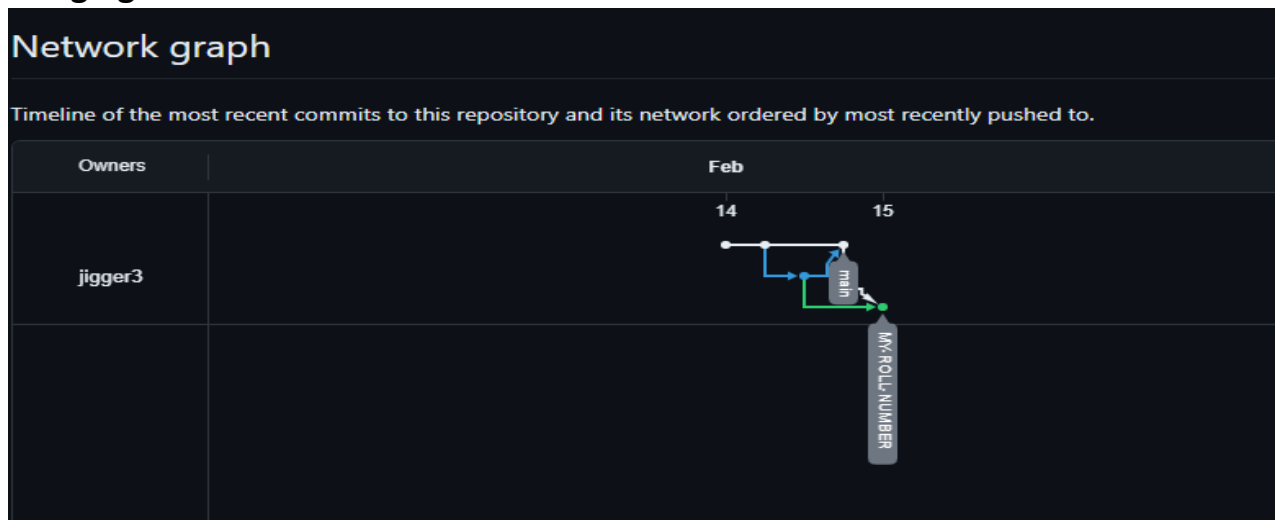
- In this I show the final merging network graph.

GENERALIZED LAB RUBRICS

| Domain	Component with Taxonomy	Above Expectation (4)	Meeting Expectation (3)	Approaching Expectation (2)	Below Expectation (1)	Used	Weight / 100 (Optional)	Score (1–4)
Psychomotor	**Building** (Hardware)	Is able to build a given setup neatly and timely using correct hardware components and / or can reorganize / adapt to new / special requirements	Is able to assemble a given setup using correct hardware components after minor revisions	Is only able to copy a given setup using correct hardware components	Is not able to assemble a given setup using correct hardware components	☐		
Cognitive	**Recording Measurements** (Hardware / Software)	Is able to record accurate measurements all the time	Is able to record accurate measurements most of the time	Is only able to record accurate measurements on some occasions	Is unable to record accurate measurements	☐		
	Investigation (Software)	Is able to formulate /develop theories in addition to evaluating /concluding correctly about investigation parameters by assessing data	Is able to evaluate /conclude correctly about investigation parameters by assessing data	Is partially able to evaluate /conclude correctly about investigation parameters by assessing data	Is unable to comprehend investigation parameters	☐		
	Design / Development of Solution (Hardware / Software)	Is able to design / develop the solution of a given problem and add features to it	Is able to design / develop the solution of a given problem	Is able to partially design / develop the solution of a given problem	Is unable to partially design / develop the solution of a given problem	☐		
	Software Usage (Software)	Is adept in the use of software tool and can access advanced features	Is able to use the software tool effectively by accessing all the required features	Is able to use the software tool but cannot access all the required features	Is unable to use the software tool	☐		
	Programming Language (Software)	Is able to efficiently complete a given task using advanced programming language constructs / methods / commands and/or add features to the original task	Is able to complete a given task using required programming language constructs / methods / commands	Is able to partially complete a given task	Is unable to partially complete a given task	☐		

NAME: MUHAMMAD KHUBAIB

ROLL NO: 23ST017

DEPARTMENT: SOFTWARE ENGINEERING TECHNOLOGY

LAB2

CONCEPT OF GITHUB

1. **Create a repo. Put any name you like.**
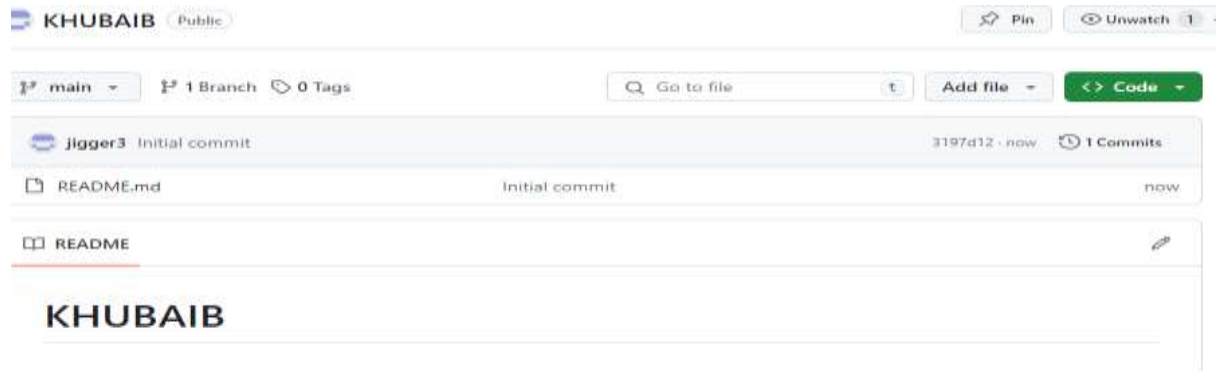
- **I Create new repo.**

_____

2. **Create a file named "first file". Output your name and roll number using cout.**

- **I created new file give name it first file.**
- **Next I print name and roll no**

3. Attach you network graph.

Network graph

Timeline of the most recent commits to this repository and its network ordered by most recently pushed to.

Owners		Feb
		25
jigger3		

- **Network Graph**

4 Create a new branch called "fsc_subjects"

Active branches

Branch	Updated
Fsc-Subject ⧉	🖥 1 minute ago

- **New Branch**

5. **Add your fsc subjects and commit to the fsc_subjects branch.**

KHUBAIB / first-file in fsc-subject

Edit   Preview   🐙 Code 55% faster with GitHub Copilot

```
1    cout<<"Name:"Muhammad Khubaib"<<endl;
2    cout<<"Roll No: 23ST017"<<endl;
3    cout<<"FSC SUBJECT:MATH,COMPUTER,PHYSICS,ENGLISH,BILOGY"<<endl;
4
```

- **Edit new branch and add subject in the branch.**
6. **Create a new branch called "1st_semester".**

1st-semmester ⧉

Create first semester branch.

_____

7. **Add your 1st semester subjects. Commit the changes to 1st_semster (NOT the master branch).**

1-Semmester branch.

8. **Attach the network graph.**

Network Graph

9. **Create a new branch named "2nd_semester". Add your 2nd semester subjects in numbered bullet points.**
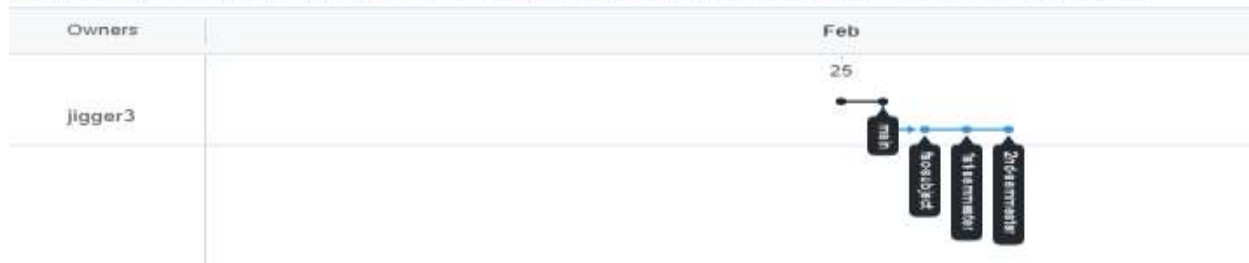

Create 2nd semester branch give bulletes on its subject.

10. **Attach the network graph.**

Network graph

imeline of the most recent commits to this repository and its network ordered by most recently pushed to.

Owners		Feb
jigger3		25

Attach 2ⁿᵈ semester network graph.

11. **Now, create and merge the 2nd_semester branch into the 1st semester branch. Attach the Network graph.**

Network graph

Timeline of the most recent commits to this repository and its network ordered by most recently pushed to.

Owners		Feb
jigger3		25
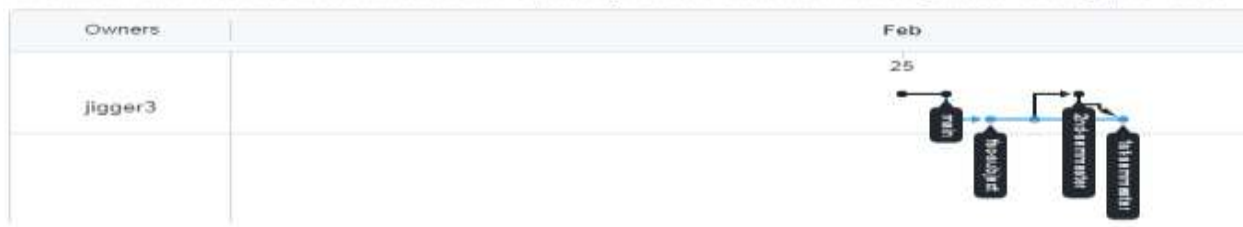
Create merge and attach network graph.

12. After you merge the 2nd semester branch, you should get a display like following:

Pull request successfully merged and closed

You're all set—the `2nd-semmester` branch can be safely deleted.

Delete branch

13. Merge the 1st_semester into fsc_subjects. Attach the network graph after merging

Merge 1st-semmester into FSC Subject.

14. Finally, merge fsc_subjects to master branch.

15. Attach your network graph.
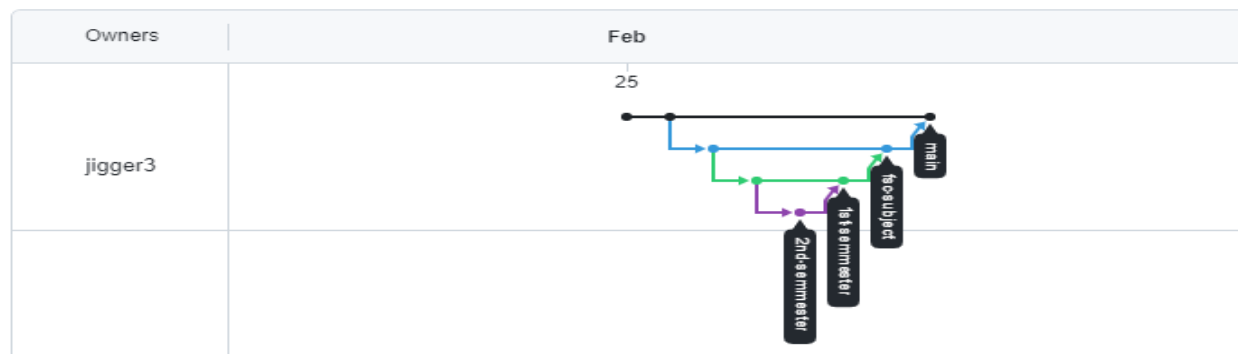
Merge FSC Branch in Main Branch.

GENERALIZED LAB RUBRICS

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	Design / Development of Solution (Hardware / Software)	Is able to design / develop the solution of a given problem and add features to it	Is able to design / develop the solution of a given problem	Is able to partially design / develop the solution of a given problem	Is unable to partially design / develop the solution of a given problem	☐		
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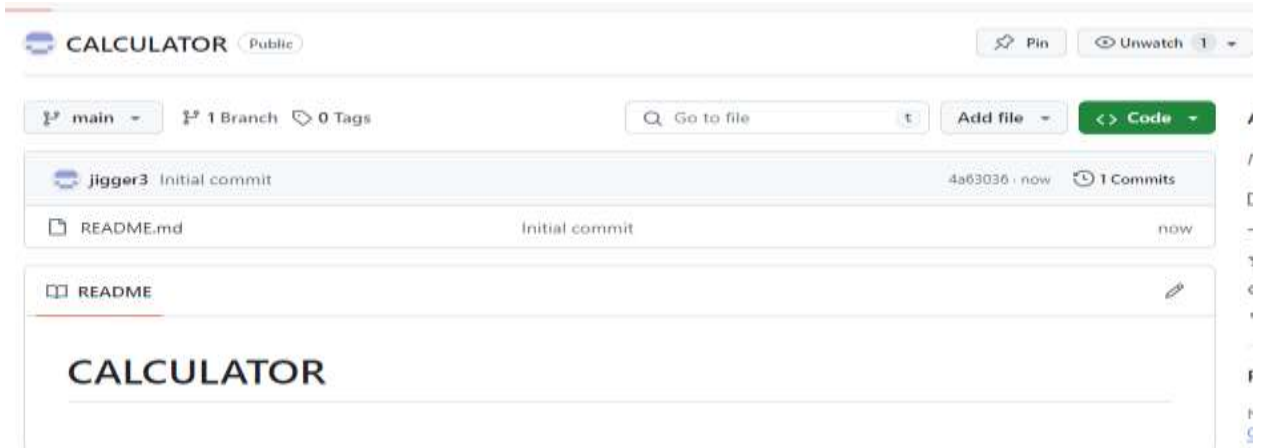**NAME: MUHAMMAD KHUBAIB**

ROLL NO: 23ST017

DEPARTMENT: SOFTWARE ENGINNERING TECHNOLOGY

LAB3

1. **Add a file named "Calculator" in your main branch (main/calculator).**

- Create a main branch with name Calculator.

_____

2. **In your main branch, add your name and roll number using a simple cout line (no need to write the whole program).**

- In main branch we add Name and Roll No.

_____
_____

3. Commit these changes to the main branch.

- Change commit and attach Screenshot.

_____
_____

4. In your addition\calculator, add a new line which simply adds two numbers 'a' and 'b',
using a single cout command.

```
1    #include<iostream>
2    using namespace std;
3    int main()
4    {
5    cout<<"ENTER NAME:MUHAMMAD KHUBAIB"<<endl;
6    cout<<"ENTER ROLL NO:23ST017"<<endl;
7    cout<<"sum of two number:"<<"a+b"<<endl;
8    }
```
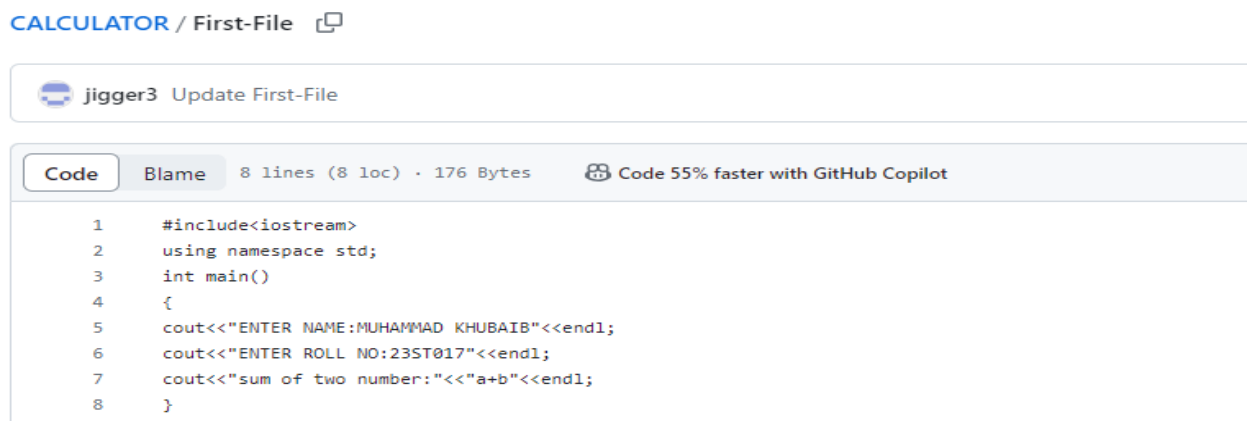
- Add addition Branch.

_____
_____

5. Create a new branch: "subtraction".
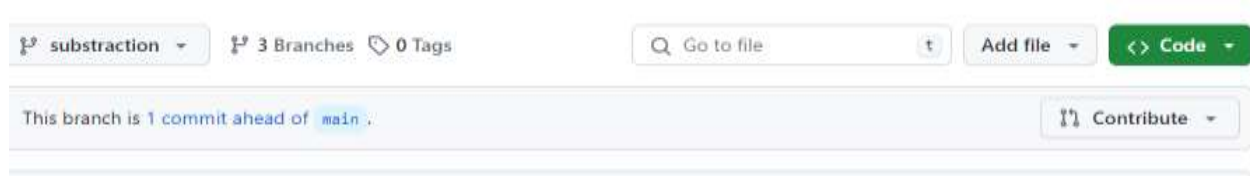
- Add new Branch subtraction.

_____

____

6. In subtraction\calculator, add a cout line to subtract two numbers.

```
CALCULATOR /  First-File                  in  substraction

  Edit    Preview    &3 Code 55% faster with GitHub Copilot

  1      #include<iostream>
  2      using namespace std;
  3      int main()
  4      {
  5      cout<<"ENTER NAME:MUHAMMAD KHUBAIB"<<endl;
  6      cout<<"ENTER ROLL NO:23ST017"<<endl;
  7      cout<<"sum of two number:"<<"a+b"<<endl;
  8      cout<<"substract of two number:"<<"a-b"<<endl;
  9      }
  10
```

- Add news line subtraction of two number.

_____

____

7. Commit to the subtraction branch.

```
Commit changes                                              ×

Commit message
[ Update First-File ]

Extended description

 Add an optional extended description...




● Commit directly to the substraction branch
○ Create a new branch for this commit and start a pull request
  Learn more about pull requests

                          Cancel    Commit changes
```

- Commit the subtraction branch.

_____

____

8. Add a new branch: multiplication.

```
ℓ° multiplication  ▾   ℓ° 4 Branches  ◌ 0 Tags      Q Go to file          t   Add file ▾   <> Code ▾

This branch is 3 commits ahead of  main .                                   ℐ↑ Contribute  ▾

 jigger3  Update First-File                          02bbe12 · 1 minute ago   ⏱ 5 Commits

 ⬜ First-File              Update First-File                              1 minute ago
 ⬜ README.md              Initial commit                                 28 minutes ago
```
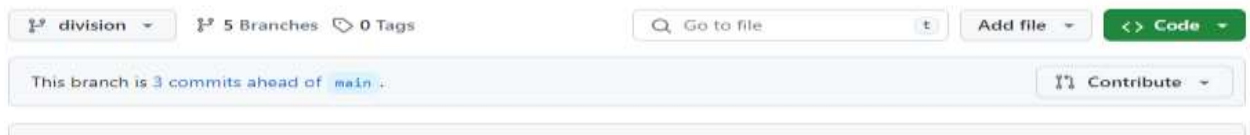
- Add multiplication branch.

_____
_____

9. In multiplication/calculator, add a line to calculate the product of the two numbers.

CALCULATOR / First-File   in multiplication

```
Edit    Preview    Code 55% faster with GitHub Copilot

1    #include<iostream>
2    using namespace std;
3    int main()
4    {
5    cout<<"ENTER NAME:MUHAMMAD KHUBAIB"<<endl;
6    cout<<"ENTER ROLL NO:235T017"<<endl;
7    cout<<"sum of two number:"<<"a+b"<<endl;
8    cout<<"substract of two number:"<<"a-b"<<endl;
9    cout<<"multiplication of two number:"<<"a*b"<<endl;
10   }
11
```
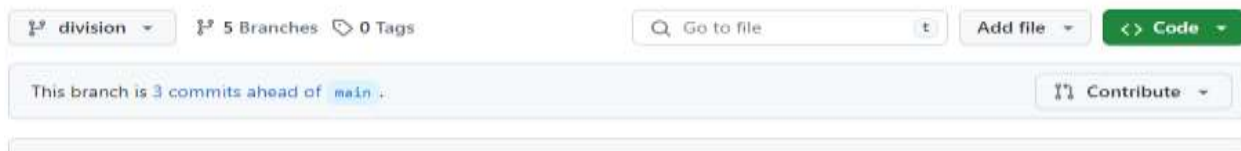
- Add new line for multiplication of two number.

_____
_____

10. Commit to the multiplication branch.

```
division ▾    5 Branches  0 Tags          Q Go to file          t    Add file ▾    <> Code ▾

This branch is 3 commits ahead of main .                                   Contribute ▾
```

- Commit the multiplication branch.

_____
_____

11. Create a new branch: 'division'.

```
division ▾    5 Branches  0 Tags          Q Go to file          t    Add file ▾    <> Code ▾

This branch is 3 commits ahead of main .                                   Contribute ▾
```

- Add division branch.

_____
_____

12. Add a line to calculate the division of two numbers: 'a' and 'b'.

Edit   Preview   Code 55% faster with GitHub Copilot

```cpp
#include<iostream>
using namespace std;
int main()
{
    cout<<"ENTER NAME:MUHAMMAD KHUBAIB"<<endl;
    cout<<"ENTER ROLL NO:23ST017"<<endl;
    cout<<"sum of two number:"<<"a+b"<<endl;
    cout<<"substract of two number:"<<"a-b"<<endl;
    cout<<"multiplication of two number:"<<"a*b"<<endl;
    cout<<"division of two number:"<<"a/b"<<endl;
}
```

- Add new line for division.

_____

_____13. Commit to the division branch.

Commit message

Update First-File

Extended description

Add an optional extended description..

● Commit directly to the division branch
○ Create a **new branch** for this commit and start a pull request
Learn more about pull requests

Cancel   Commit changes

- Commit the division branch.

_____
___

14. Create a PULL request to merge the division branch into the multiplication branch.

Pull request successfully merged and closed   Delete branch
You're all set—the division branch can be safely deleted.

Add a comment

- Create pull request of division branch.

_____
_____

15. Attach the network graph at this point.

- Attach the network graph after merging division branch.

_____
_____

16. Merge the multiplication branch to the subtraction branch.

- Merge multiplication branch.

_____
___

17. Attach the network graph.

- Attach the network graph after merging multiplication branch.

_____

18. Merge Subtraction to Addition branch.

Pull request successfully merged and closed
You're all set—the `substraction` branch can be safely deleted.

Delete branch

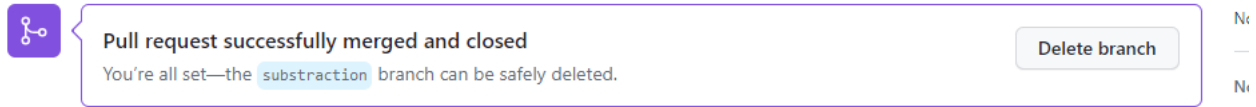- Merge Subtraction branch.

_____

19. Attach the network graph.

Network graph

Timeline of the most recent commits to this repository and its network ordered by most recently pushed to.

Owners	Feb
jigger3	28

- Attach network graph after merge the Subtractions branch.

_____

20. Finally, merge the addition to master branch.

Pull request successfully merged and closed
You're all set—the `addition` branch can be safely deleted.

Delete branch

Add a comment

- Merge the addition branch.

_____

21. Attach the network graph.

Network graph

Timeline of the most recent commits to this repository and its network ordered by most recently pushed to.
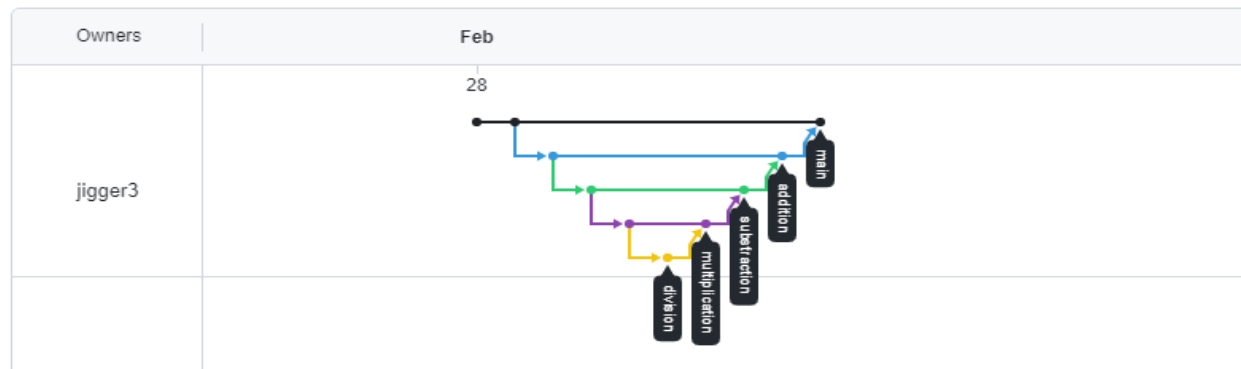
- Attach the network graph after merge the addition branch in main branch.

_____

____

22. Attach the screenshots of the calculator file of the master branch and the addition

Branch. Is there any difference between the file contents?

CALCULATOR / First-File

jigger3 Update First-File   f0a

| Code | Blame | 11 lines (11 loc) · 321 Bytes | Code 55% faster with GitHub Copilot |

```
1    #include<iostream>
2    using namespace std;
3    int main()
4    {
5    cout<<"ENTER NAME:MUHAMMAD KHUBAIB"<<endl;
6    cout<<"ENTER ROLL NO:23ST017"<<endl;
7    cout<<"sum of two number:"<<"a+b"<<endl;
8    cout<<"substract of two number:"<<"a-b"<<endl;
9    cout<<"multiplication of two number:"<<"a*b"<<endl;
10   cout<<"division of two number:"<<"a/b"<<endl;
11   }
```

- Attach the Screenshot of merge all branch in master file.

_____

____

GENERALIZED LAB RUBRICS

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NAME: <u>MUHAMMAD KHUBAIB</u>
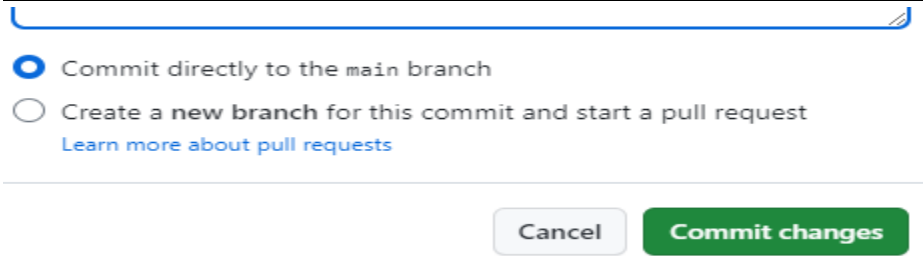
ROLL NO: <u>23ST017</u>

DEPARTMENT: <u>SOFTWARE ENGINEERING TECHNOLOGY</u>

<u>LAB4</u>

1. <u>Create a file named "my_first_file" in the master/main branch.</u>
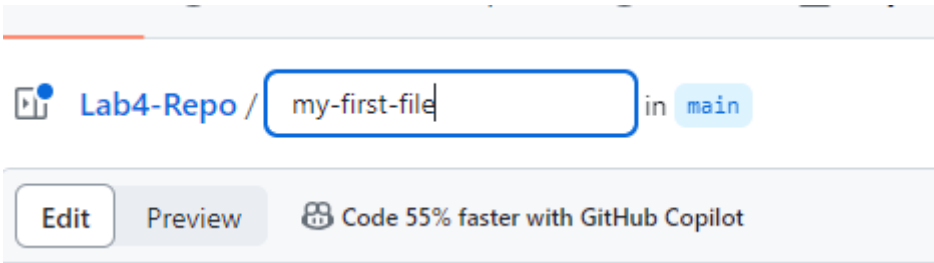
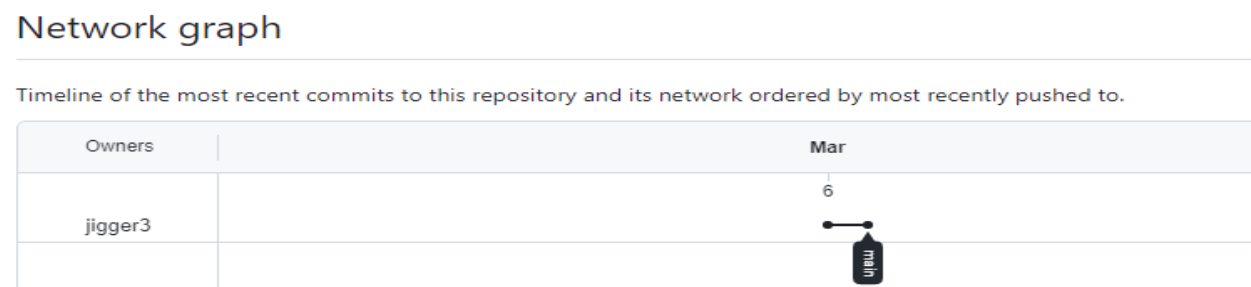- Create my first file.

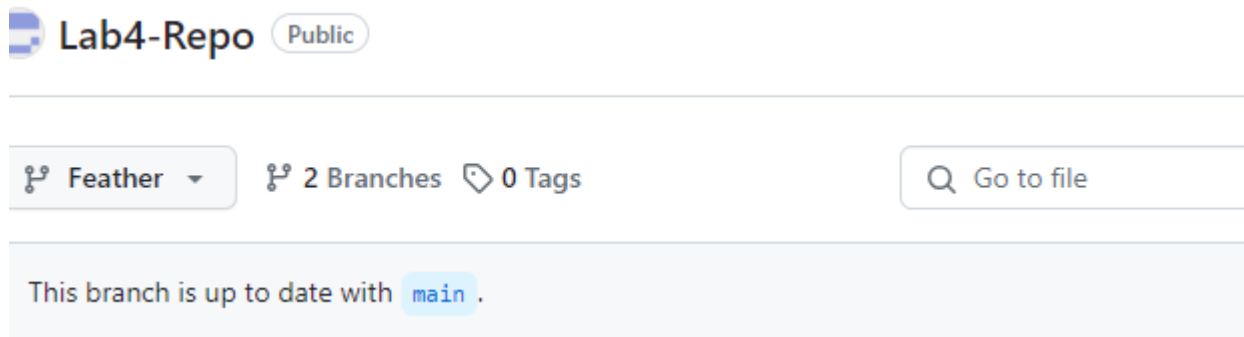2. <u>Add a C++ line to add two numbers. Commit the changes to the master branch.</u>

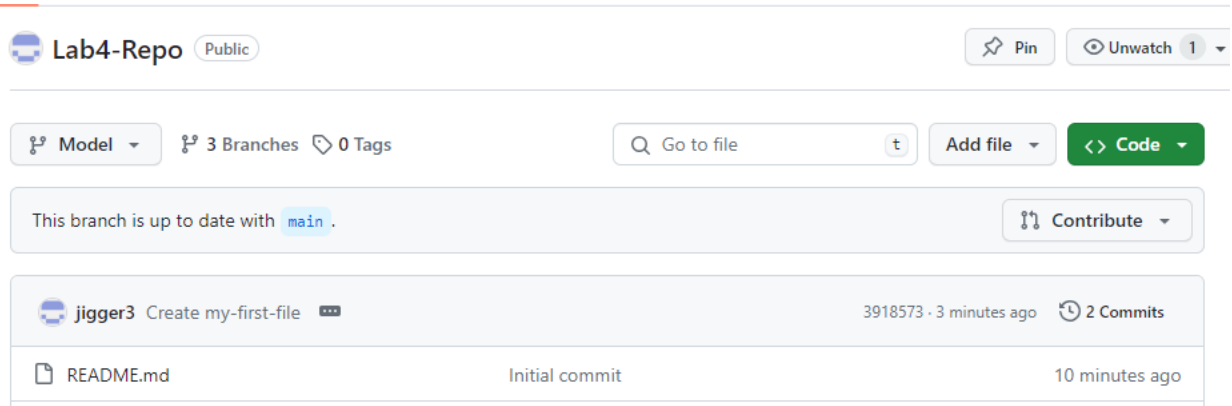- Commit change after adding two lines.

3. <u>Attach your network graph.</u>

- Network Graph.

4. Create a new branch named "feather" from main branch.

🖥 **Lab4-Repo** (Public)

⑂ Feather ▾   ⑂ 2 Branches   🏷 0 Tags   🔍 Go to file

This branch is up to date with `main` .

- Create feather name branch.

5. Create a new branch named "models" from main.

🖥 **Lab4-Repo** (Public)   📌 Pin   👁 Unwatch 1 ▾

⑂ Model ▾   ⑂ 3 Branches   🏷 0 Tags   🔍 Go to file   t   Add file ▾   <> Code ▾

This branch is up to date with `main` .   ⇅ Contribute ▾

🖥 **jigger3** Create my-first-file •••	3918573 · 3 minutes ago	🕐 **2 Commits**
📄 README.md	Initial commit	10 minutes ago

- Create model name branch.

6. Attach the network graph.

Network graph

Timeline of the most recent commits to this repository and its network ordered by most r

Owners		Mar
		6
jigger3		●━━●
		main
		Model
		Feather
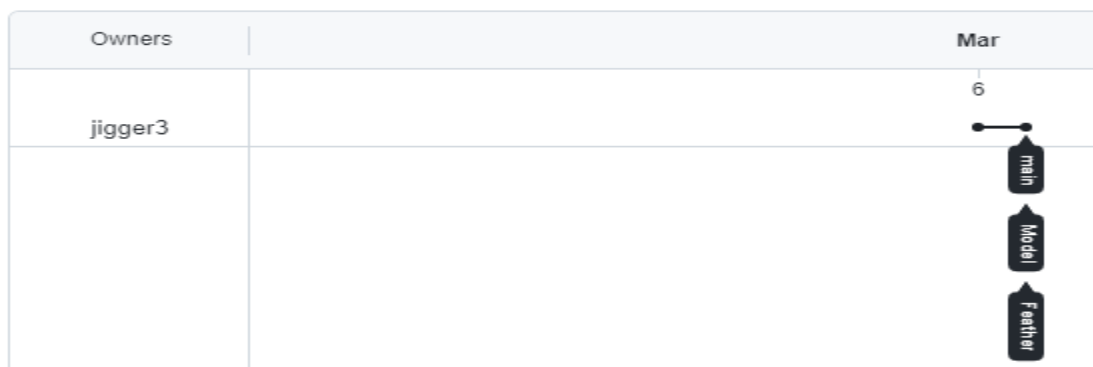
- Attach Network Graph after create two branch from main.

7. **In the 'models' branch, add a new code to subtract two numbers.**

Lab4-Repo / my-first-file   in Model

Edit   Preview   🐙 Code 55% faster with GitHub Copilot

```
1    cout<<"add two number"<<a+b<<endl;
2    cout<<"subtract two number<<a-b<<endl;
```

- Subtaract two number code add in the model branch.

8. **Commit the changes to the models branch.**

Extended description

subtract two number

◉ Commit directly to the Model branch
◯ Create a new branch for this commit and start a pull request
   Learn more about pull requests

Cancel   Commit changes

- Commit the model branch.

9. Attach the network graph.

Network graph

Timeline of the most recent commits to this repository and its network ordered by most recently pushed to.

Owners	Mar
	6
jigger3	
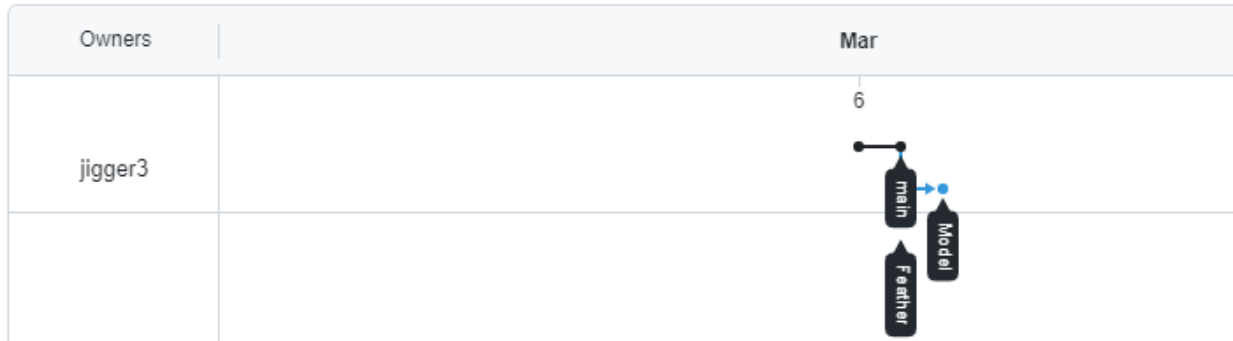
- Attach Network branch after commit the model branch.

10. Go to the "Pull Requests" tab and add a PULL request to merge the 'models' to the 'main' branch.

Comparing changes

Choose two branches to see what's changed or to start a new pull request. If you need to, you can also compare across

base: main ← compare: Model ✓ Able to merge. These branches can be automatically merged.

Pull request successfully merged and closed
You're all set—the `Model` branch can be safely deleted.

Delete branch

Add a comment

- Create pull request for mergingmodel branch to the main branch.

At this point, you did not merge the features branch to the main branch

11. Add a screenshot showing the contents of my_first_file of the main branch and the features branch. What is the difference?

Lab4-Repo / my-first-file 🗇

jigger3 Update my-first-files ⋯

| Code | Blame | 2 lines (2 loc) · 74 Bytes | 🐙 Code 55% faster with GitHub Copilot |

```
1    cout<<"add two number"<<a+b<<endl;
2    cout<<"subtract two number<<a-b<<endl;
```

Lab4-Repo / my-first-file 🗇

jigger3 Create my-first-file ⋯

| Code | Blame | 1 lines (1 loc) · 35 Bytes | 🐙 Code 55% faster with GitHub Copilot |

```
1    cout<<"add two number"<<a+b<<endl;
```

- Show difference Feather branch and the main branch.

12. Do carefully: Merge the 'models' branch to the 'features' branch. Commit the change to the 'features' branch.

jigger3 merged commit fb28c04 into Feather now   Revert

Pull request successfully merged and closed   Delete branch
You're all set—the Model branch can be safely deleted.

Add a comment

- Merge model branch into feather branch.
13. Add a line that outputs the product of two number.

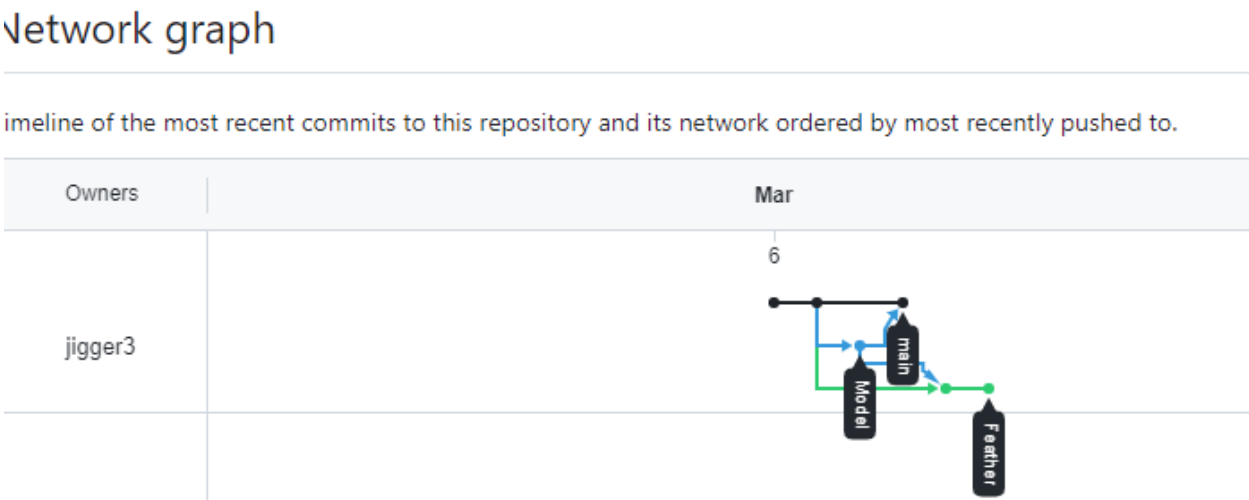Lab4-Repo / my-first-file

jigger3 Update my-first-file

Code | Blame | 3 lines (3 loc) · 118 Bytes | Code 55% faster with GitHub Copilot
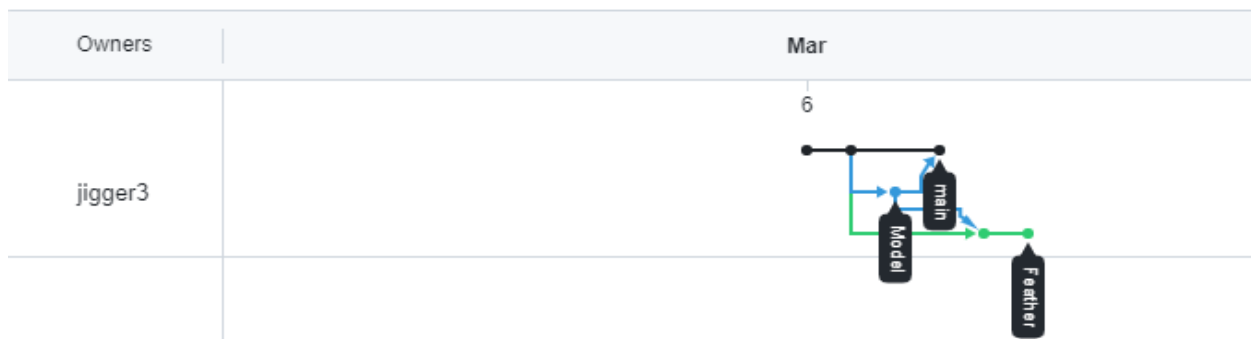
```
1    cout<<"add two number"<<a+b<<endl;
2    cout<<"subtract two number<<a-b<<endl;
3    cout<<"product of two number"<<"a*b"<<endl;
```

- Add line product of two number in the feather branch.

14. Attach the network graph.

Network graph

imeline of the most recent commits to this repository and its network ordered by most recently pushed to.

Owners	Mar
	6
jigger3	

- Network Graph

15. Add a screenshot showing the contents of my_first_file of the features branch, models branch and main branch. Is there any similarity or difference? Explain your findings.

Model ▾ | + | Q

Q Go to file | t

README.md

my-first-file

jigger3 Update my-first-files

Code | Blame | 2 lines (2 loc) · 74 Bytes

```
1    cout<<"add two number"<<a+b<<endl;
2    cout<<"subtract two number<<a-b<<endl;
```

Files

main

Go to file

README.md

my-first-file

Lab4-Repo / my-first-file

jigger3 Update my-first-files

Code | Blame | 2 lines (2 loc) · 74 Bytes | Code

```
1    cout<<"add two number"<<a+b<<endl;
2    cout<<"subtract two number<<a-b<<endl;
```

Files

Feather

Go to file

README.md

my-first-file

Lab4-Repo / my-first-file

jigger3 Update my-first-file

Code | Blame | 3 lines (3 loc) · 118 Bytes | Code 55% f

```
1    cout<<"add two number"<<a+b<<endl;
2    cout<<"subtract two number<<a-b<<endl;
3    cout<<"product of two number"<<"a*b"<<endl;
```

- We merge the model branch in the feather branch feather branch contain three line code but model branch and main are merged contain two line code.

16. Attach the final network graph.

Network graph

Timeline of the most recent commits to this repository and its network ordered by most recently pushed to.

- Final Network Graph.

GENERALIZED LAB RUBRICS

| Domain	Component with Taxonomy	Above Expectation (4)	Meeting Expectation (3)	Approaching Expectation (2)	Below Expectation (1)	Used	Weight / 100 (Optional)	Score (1–4)
Psychomotor	**Building** (Hardware)	Is able to build a given setup neatly and timely using correct hardware components and / or can reorganize / adapt to new / special requirements	Is able to assemble a given setup using correct hardware components after minor revisions	Is only able to copy a given setup using correct hardware components	Is not able to assemble a given setup using correct hardware components	☐		
Cognitive	**Recording Measurements** (Hardware / Software)	Is able to record accurate measurements all the time	Is able to record accurate measurements most of the time	Is only able to record accurate measurements on some occasions	Is unable to record accurate measurements	☐		
	Investigation (Software)	Is able to formulate /develop theories in addition to evaluating /concluding correctly about investigation parameters by assessing data	Is able to evaluate /conclude correctly about investigation parameters by assessing data	Is partially able to evaluate /conclude correctly about investigation parameters by assessing data	Is unable to comprehend investigation parameters	☐		
	Design / Development of Solution (Hardware / Software)	Is able to design / develop the solution of a given problem and add features to it	Is able to design / develop the solution of a given problem	Is able to partially design / develop the solution of a given problem	Is unable to partially design / develop the solution of a given problem	☐		
	Software Usage (Software)	Is adept in the use of software tool and can access advanced features	Is able to use the software tool effectively by accessing all the required features	Is able to use the software tool but cannot access all the required features	Is unable to use the software tool	☐		
	Programming Language (Software)	Is able to efficiently complete a given task using advanced programming language constructs / methods / commands and/or add features to the original task	Is able to complete a given task using required programming language constructs / methods / commands	Is able to partially complete a given task	Is unable to partially complete a given task	☐		

NAME: **MUHAMMAD KHUBAIB**

ROLL NO: **23ST017**

DEPARTMENT: **SOFTWARE ENGINEERING TECHNOLOGY**

LAB5

1. **Using your GitHub account, find any interesting repo and 'fork' it.**
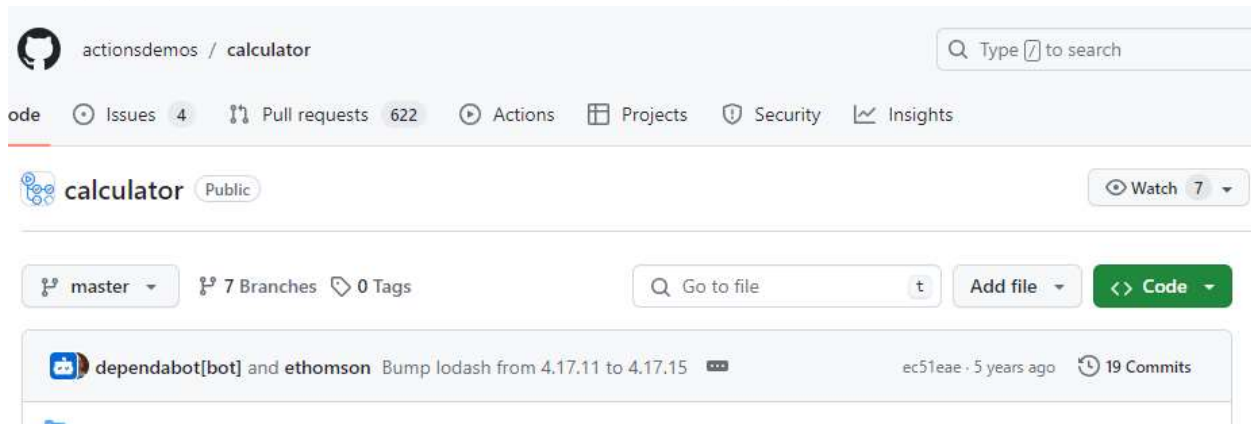
- **Find repo and work on fork.**

2. After you fork it, attach a screenshot of its main repo where all of its files and folders are displayed.

• **Screenshot who folder and file display.**

3. Locate the main source code of the program and try to modify your own version by adding a simple cout command that adds two numbers.

```
142    {
143        background-position: -275px 0;
144        width: 25px;
145    }
146    cout<<"add two number"<<endl;
147
```

• **Add one code in the calculator fork.**
4. Submit a PULL Request to the owner of the repo.

- **Submit pull request to the owner of the repo.**
5. **Next, fork the repo of any of your friend.**

- **Fork repo of friend.**

6. **By adding any new file, submit a PULL request to him. This will let him know that a new**

edit has been made and needs reviewing.

Commit directly to the `main` branch

Create a **new branch** for this commit and start a pull request

Learn more about pull requests

Cancel   **Commit changes**

```
|                     |
|     +---------------+    |
|     |    Methods    |    |
|     +---------------+    |
|     |    setter()   |    |
|     +---------------+    |
+--------------------------+
#+END_SRC
cout<<"aad friend repo"<<endl;
```

After changes pull request to friend repo.

6. **Finally, 'fork' the main repo and add a new file.**

- **Finnally fork.**
7. **In your file, add a line that prints your name, roll number and department using**

simple cout command.

```
actually this persion is from karachi

Hello. I am adding keys.
My name is afaq ahmad
cout<<"roll o"<<23st017<<endl;
cout<<"Name:"<<Muhammad Khubaib"<<endl;
```

Jigger3 committed 1 minute ago (Verified)

owing 1 changed file with 2 additions and 0 deletions.

```
∨  ⚓ 2  ██▭▭▭  first_file  ⎘
```

		@@ -26,3 +26,5 @@ actually this persion is from karachi
26	26	
27	27	Hello. I am adding keys.
28	28	My name is afaq ahmad
	29	+ cout<<"roll o"<<23st017<<endl;
	30	+ cout<<"Name:"<<Muhammad Khubaib"<<endl;

comments on commit 17d5201

- **In this I fork the your repo for attendance.**

GENERALIZED LAB RUBRICS

Domain	Component with Taxonomy	Above Expectation (4)	Meeting Expectation (3)	Approaching Expectation (2)	Below Expectation (1)	Used	Weight / 100 (Optional)	Score (1–4)
Psychomotor	**Building** (Hardware)	Is able to build a given setup neatly and timely using correct hardware components and / or can reorganize / adapt to new / special requirements	Is able to assemble a given setup using correct hardware components after minor revisions	Is only able to copy a given setup using correct hardware components	Is not able to assemble a given setup using correct hardware components	☐		
Cognitive	**Recording Measurements** (Hardware / Software)	Is able to record accurate measurements all the time	Is able to record accurate measurements most of the time	Is only able to record accurate measurements on some occasions	Is unable to record accurate measurements	☐		
	Investigation (Software)	Is able to formulate /develop theories in addition to evaluating /concluding correctly about investigation parameters by assessing data	Is able to evaluate /conclude correctly about investigation parameters by assessing data	Is partially able to evaluate /conclude correctly about investigation parameters by assessing data	Is unable to comprehend investigation parameters	☐		
	Design / Development of Solution (Hardware / Software)	Is able to design / develop the solution of a given problem and add features to it	Is able to design / develop the solution of a given problem	Is able to partially design / develop the solution of a given problem	Is unable to partially design / develop the solution of a given problem	☐		
	Software Usage (Software)	Is adept in the use of software tool and can access advanced features	Is able to use the software tool effectively by accessing all the required features	Is able to use the software tool but cannot access all the required features	Is unable to use the software tool	☐		
	Programming Language (Software)	Is able to efficiently complete a given task using advanced programming language constructs / methods / commands and/or add features to the original task	Is able to complete a given task using required programming language constructs / methods / commands	Is able to partially complete a given task	Is unable to partially complete a given task	☐		

NAME: MUHAMMAD KHUBAIB

ROLLNO: 23ST017

DEPARTMENT: SOFTWARE ENGINNERING TECHNOLOGY

<u>LAB6</u>

1. <u>Create a new file in your "Lab 6" repo.</u>

- Create new file named as My_Repo/Lab6.

2. <u>In your file, add a list of any five grocery items (look at the figure).</u>
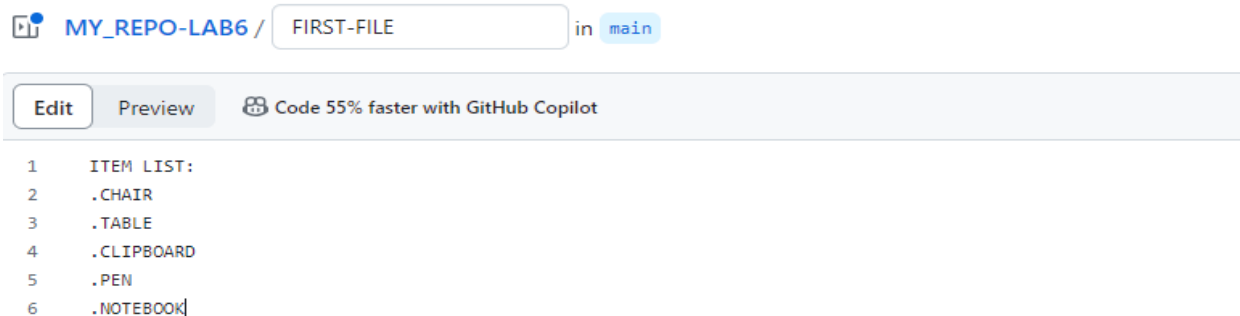
- Add glossary item in the main file.

3. <u>Commit it to the main branch.</u>

Commit changes after add glossary item.

4. Create new branches named '1 st _branch' and '2 nd _branch' from the main branch.

MY_REPO-LAB6 (Public)   📌 Pin   👁 Unwatch 1

2nd-BRANCH ▾   3 Branches ◇ 0 Tags   🔍 Go to file   t   Add file ▾   <> Code ▾

MY_REPO-LAB6 (Public)   📌 Pin   👁 Unwatch 1 ▾

1st-BRANCH ▾   2 Branches ◇ 0 Tags   🔍 Go to file   t   Add file ▾   <> Code ▾

This branch is up to date with `main` .   ↕ Contribute ▾

- Create two branch from main named as 1st-branch and 2nd branch.

5. Attach network graph.

Network graph

Timeline of the most recent commits to this repository and its network ordered by most recently pushed to.

Owners	Mar
	13
jigger3	main 2nd-BRANCH 1st-BRANCH

- Attach network graph.

6. Go to your file in the first branch and add a new item (any item you like) in the 9 th line. Commit directly to main branch.

MY_REPO-LAB6 / FIRST-FILE   in 1st-BRANCH

| Edit | Preview | Code 55% faster with GitHub Copilot |

```
1        ITEM LIST:
2          .CHAIR
3          .TABLE
4          .CLIPBOARD
5          .PEN
6
7
8
9        |.COPY
```
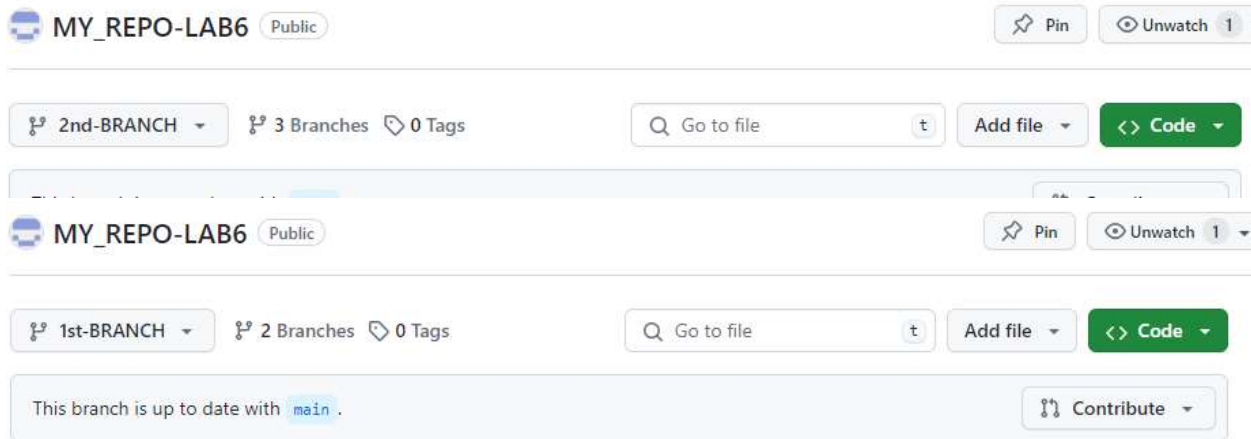
● Commit directly to the 1st-BRANCH branch

○ Create a **new branch** for this commit and start a pull request
   Learn more about pull requests

Cancel   **Commit changes**

- Add the 1 glossary item in the ist branch and commit it to main.

7. Go to your 2nd branch. Add a new item in the (same) 9th line of that file.

| Edit | Preview | Code 55% faster with GitHub Copilot |

```
1        ITEM LIST:
2          .CHAIR
3          .TABLE
4          .CLIPBOARD
5          .PEN
6
7
8
9        .REGISTER|
```

- Add 1 glossary item to main and commit it to main.

 **8. Generate a PULL request to merge 1 st branch to main branch. Attach its
screenshot.**

- Merge 1st branch to main branch.

9. Accept the PULL request i.e. merge the 1 st branch to the main branch.

Pull request successfully merged and closed

You're all set—the `1st-BRANCH` branch can be safely deleted.

[Delete branch]

Add a comment

- Accept the pull request to merge 1st branch in main.

10. Attach the network graph.

Network graph

Timeline of the most recent commits to this repository and its network ordered by most recently pushed to.
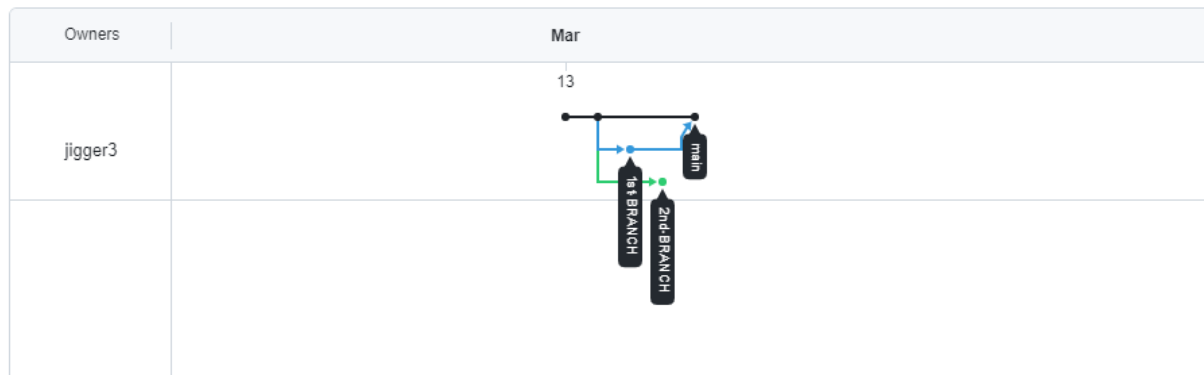
- After merge 1st branch into main attach screenshot of network graph.

11. **Now, merge the 2nd branch to main branch. You will get an error message:**

Add more commits by pushing to the 2nd-BRANCH branch on **jigger3/MY_REPO-LAB6**.

⚠ **This branch has conflicts that must be resolved**   Resolve conflicts
Use the web editor or the command line to resolve conflicts.
Conflicting files

FIRST-FILE

- Merge 2nd branch into main.

12. **Resolve the issue by opening the new window. Then click the "Resolve commit" button.**

```
FIRST-FILE

1    ITEM LIST:
2    .CHAIR
3    .TABLE
4    .CLIPBOARD
5    .PEN
6
7
8
9    <<<<<<< 2nd-BRANCH
10   .REGISTER
11   =======
12   .COPY
13   >>>>>>> main
14
```

FIRST-FILE   ✓ Resolved

- Click on the resolve clivk button and remove the error.

13. **Finally merge and delete your 2nd _branch.**

Pull request successfully merged and closed   Delete branch
You're all set—the 2nd-BRANCH branch can be safely deleted.

jigger3 merged commit **b64bf78** into main 1 minute ago   Revert

jigger3 deleted the 2nd-BRANCH branch now   Restore branch

- After resolve the issue I merge the 2nd branch into main.

14. **Attach your network graph.**

Network graph

Timeline of the most recent commits to this repository and its network ordered by most recently pushed to.
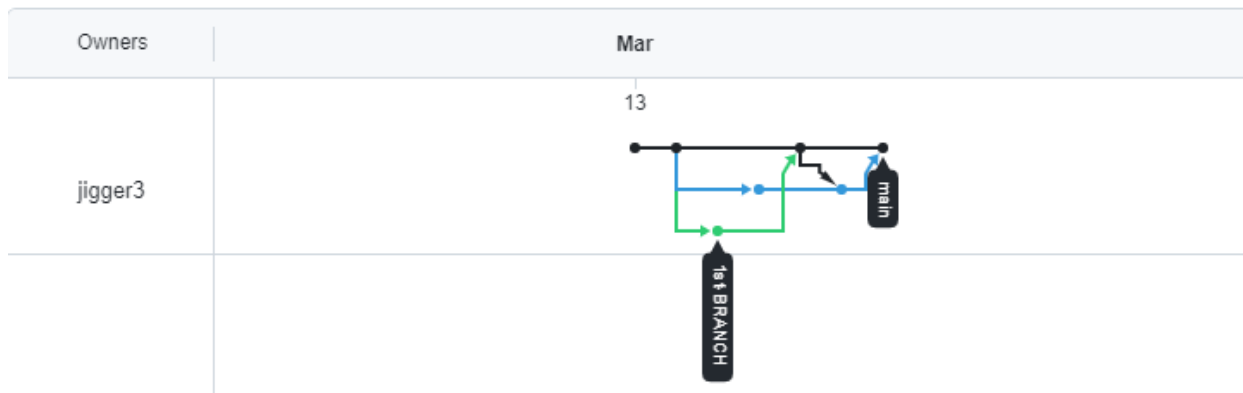
- After resolve and merge the 2nd branch into main attach the network graph screenshot.

15. In the end of your lab, write a conclusion of what you learnt in this lab so far.

- I create two branch in the main.
- I add new item in the list.
- When we merge the 2nd branch in the main it create a conflict erroe.
- Then I remove error.
- I learnt how we can resolve issues while working with complex branches.
- I know the concept of resolve conflict.

GENERALIZED LAB RUBRICS

Domain	Component with Taxonomy	Above Expectation (4)	Meeting Expectation (3)	Approaching Expectation (2)	Below Expectation (1)	Used	Weight / 100 (Optional)	Score (1–4)
Psychomotor	**Building** (Hardware)	Is able to build a given setup neatly and timely using correct hardware components and / or can reorganize / adapt to new / special requirements	Is able to assemble a given setup using correct hardware components after minor revisions	Is only able to copy a given setup using correct hardware components	Is not able to assemble a given setup using correct hardware components	☐		
Cognitive	**Recording Measurements** (Hardware / Software)	Is able to record accurate measurements all the time	Is able to record accurate measurements most of the time	Is only able to record accurate measurements on some occasions	Is unable to record accurate measurements	☐		
	Investigation (Software)	Is able to formulate /develop theories in addition to evaluating /concluding correctly about investigation parameters by assessing data	Is able to evaluate /conclude correctly about investigation parameters by assessing data	Is partially able to evaluate /conclude correctly about investigation parameters by assessing data	Is unable to comprehend investigation parameters	☐		
	Design / Development of Solution (Hardware / Software)	Is able to design / develop the solution of a given problem and add features to it	Is able to design / develop the solution of a given problem	Is able to partially design / develop the solution of a given problem	Is unable to partially design / develop the solution of a given problem	☐		
	Software Usage (Software)	Is adept in the use of software tool and can access advanced features	Is able to use the software tool effectively by accessing all the required features	Is able to use the software tool but cannot access all the required features	Is unable to use the software tool	☐		
	Programming Language (Software)	Is able to efficiently complete a given task using advanced programming language constructs / methods / commands and/or add features to the original task	Is able to complete a given task using required programming language constructs / methods / commands	Is able to partially complete a given task	Is unable to partially complete a given task	☐		

NAME: MUHAMMAD KHUBAIB

ROLL NO: 23ST017

DEPARTMENT: SOFTWARE ENGINNERING TECHNOLOGY

LAB 7

GITHUB ISSUES AND COMMIT

_____
_____
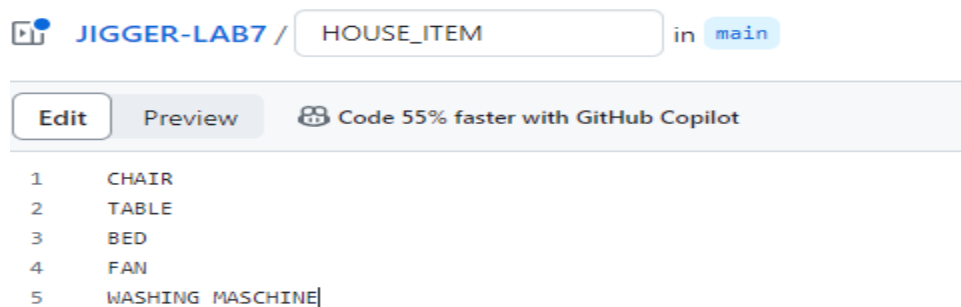
1. **Create a new repo named 'Lab 7'.**
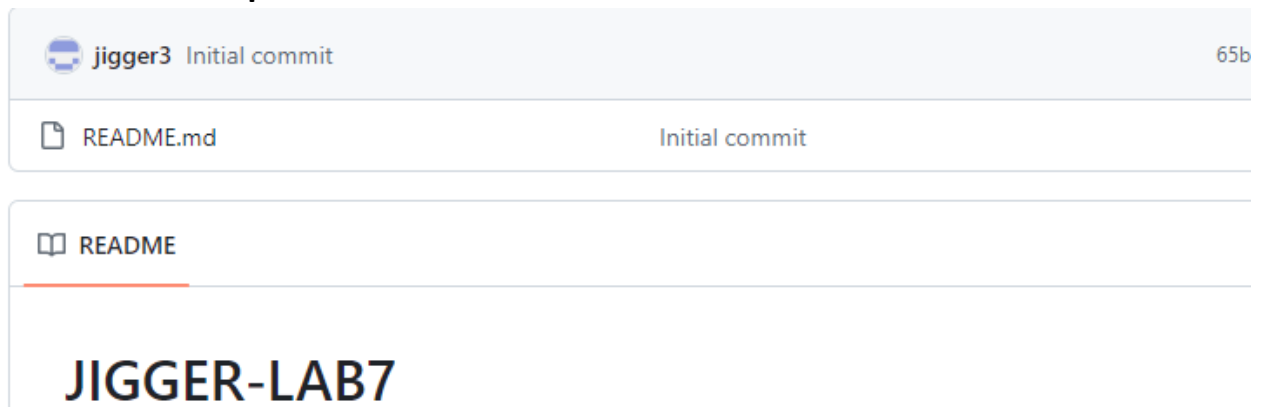
- NEW REPO NAMED LAB 7.
2. **Add a file named 'List of households items'. Add at-least five (5) items.**

- ADD NEW FILE LIST OF HOUSEHOLD ITEM.

3. Create a new branch '1 st branch' from main.
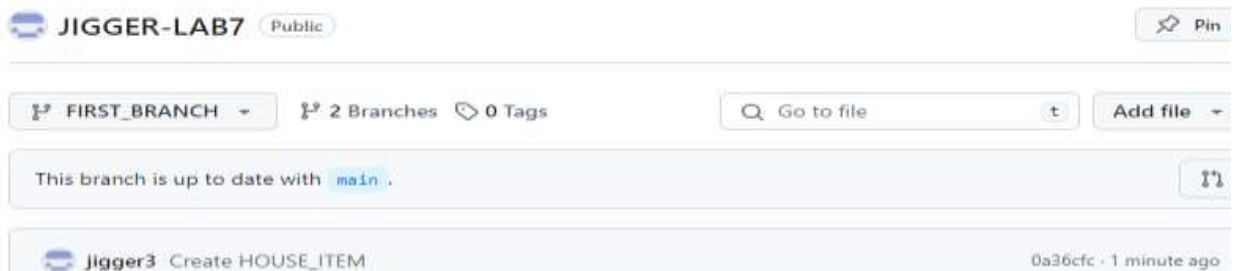
- CREATE FIRST BRANCH.

4. Create a new branch '2nd branch' from main.
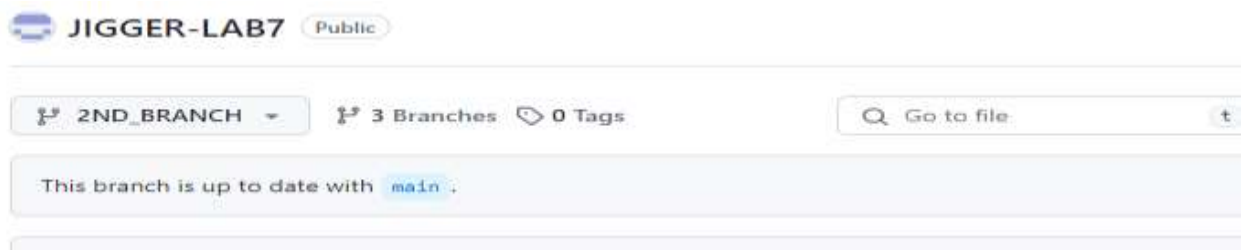
- CREATE 2ND BRANCH.

5. Go to 1 st _branch and add an item and row number 10.

- ADD NEW ITEM IN 1ST BRANCH IN LINE 10.

6. Merge this PULL request to main.
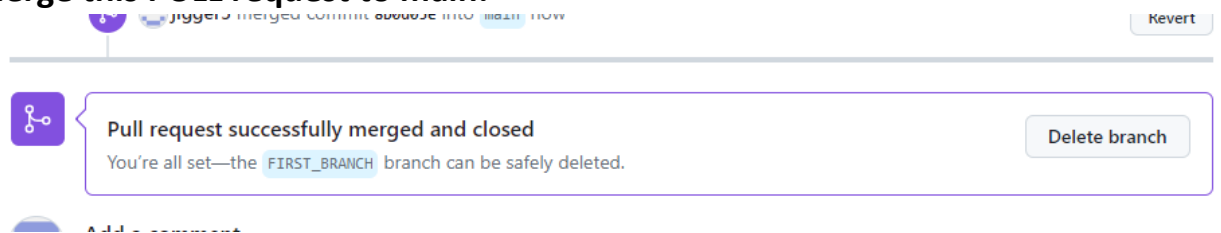
- MERGE THE 1ST BRANCH INTO MAIN AND CREATE PULL REQUEST.
7. **Go to 2 nd _branch and add an item and row number 10.**

- ADD NEW ITEM IN LINE 10 IN 2ND BRANCH.

8. Merge this PULL request to main. Do you get a conflicting issue? If so, resolve it, then

finally merge your 2 nd _branch to main. Attach the network graph.
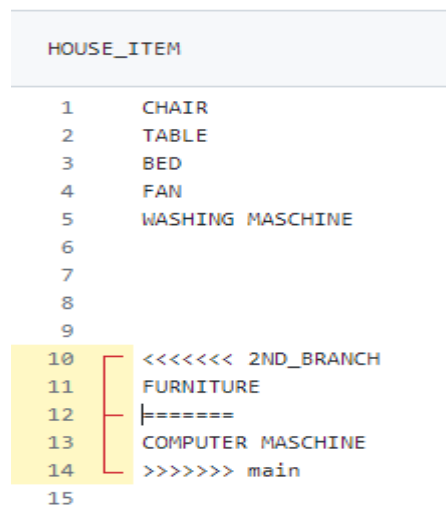
Pull request successfully merged and closed
You're all set—the `2ND_BRANCH` branch can be safely deleted.

Delete branch

Add a comment

Network graph

Timeline of the most recent commits to this repository and its network ordered by most recently pushed to.

Owners	Mar
jigger3	
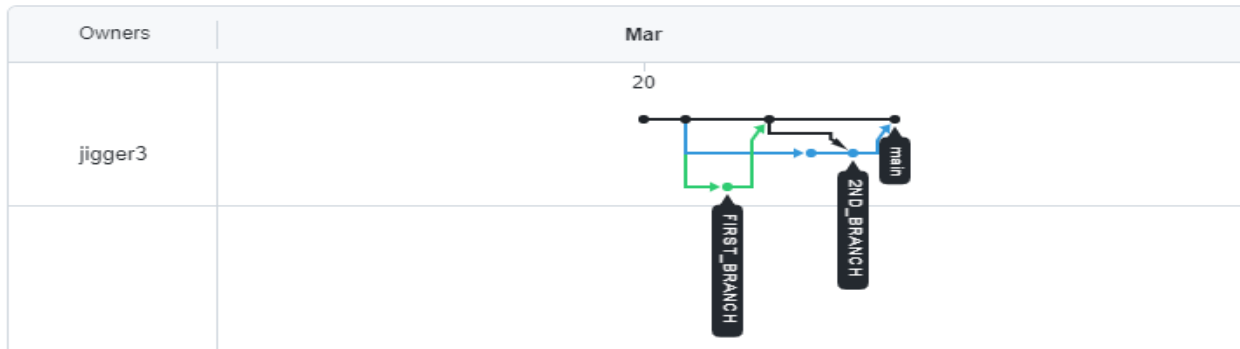
- ATTACH NETWORK GRAPH AFTER RESOLVE THE ISSUE.

9. Open a new issue by going to the 'Issues' tab. DO NOT ACCEPT/MERGE THE ISSUE

YET.

Add a title

THERE IS AN ISSSUE HERE

Add a description

| Write | Preview |

THERE IS AN ERROR [2587d9d].

Markdown is supported   Paste, drop, or click to add files

Submit new issue

Remember, contributions to this repository should follow our GitHub Community Guidelines.

- NEW ISSUE OPEN WITH ISSSUE TAB.

10. Now, use the commit/hash number of Question 7, and resolve the issue you opened in Question 9 by referencing to this hash.

- OPEN ISSUE BY REFERENCE QUESTION 7 BY 9.

11. Now, go to the change you made in hackeruser240/SCM repo (the PULL Request you

submitted in previous lab).

- GO TO CHANGE IN PREVIOUS LAB.

12. Go to 'Pull Request' tab and locate the 'Closed' tab. Here, find your PULL request. Find the 'PULL Request' number and the hash of the (or any) commit (both).

13. Using the 'issue' tab, open a new issue of your commit (i.e. Step 11).

- OPEN ISSUE BY ISSUE TAB

14. Now, give your issue a Title and add the comments you suggest to be changed. Using

both the PULL request number (of your PULL request) and the commit i.e. hash number,

suggest the changes as comments.

Add a title

NEW ISSUE

Add a description

| Write | Preview | | | | | H | B | *I* | | <> | 𝒫 | | | | | | @ | | | |

THERE IS ISSUE IN LINE 29 ROLL NO SPELLING WRONG AND NO SPACE IN MY ROLL NO
PLS RESOLVE THE ISSUE IN #89

Markdown is supported   Paste, drop, or click to add files

Submit new issue

15. Finally, submit your Issue.

Jigger3 commented now   Contributor   · · ·

THERE IS ISSUE IN LINE 29 ROLL NO SPELLING WRONG AND NO SPACE IN MY ROLL NO
PLS RESOLVE THE ISSUE IN #89

Add a comment

| Write | Preview | | | | | H | B | *I* | | <> | 𝒫 | | | | | | @ | | | |

- SUBMITT ISSUE.

16. Now, go to Pull Request #30 of hackeruser240/SCM and find how many commits

changes 1 #30

Merged hackeruser240 merged 5 commits into `1st_branch` from `main` last month

Conversation 0   Commits 5   Checks 0   Files changed 1

Commits on Feb 24, 2024

Merge pull request #27 from hackeruser240/main ...
hackeruser240 committed last month

Update first_file
hackeruser240 committed last month

Merge pull request #28 from hackeruser240/1st_branch ...
hackeruser240 committed last month

Merge branch 'main' into 2nd_branch
hackeruser240 committed last month

Merge pull request #29 from hackeruser240/2nd_branch ...
hackeruser240 committed last month

have been in this Issue?

17. Open a new issue by pointing out any issue of the commit hashes present in #30.

Add a title

ISSUE 2

Add a description

| Write | Preview | H | B | I | ... |

IN #30 THERE IS ISSUE IN ITS COMMIT IN #27 WHERE #19 AND 320 ARE NOT PRESENT AND #20 IS DIRECTLY COMITTED AFTER #18 PLZ RESOLVE THIS ISSUE IN #30

Markdown is supported   Paste, drop, or click to add files

Submit new issue

18. Submit your Issue.

jigger3 commented now   (Contributor) ⋯

THERE IS AN ISSUE IN #27 OF #30 IN WHICH #19 AND #20 ARE MISSING .#21 IS DIRECTLY COMMITTED AFTER #18.
PLZ RESOLVE THIS ISSUE IN #30

🙂

GENERALIZED LAB RUBRICS

Domain	Component with Taxonomy	Above Expectation (4)	Meeting Expectation (3)	Approaching Expectation (2)	Below Expectation (1)	Used	Weight / 100 (Optional)	Score (1–4)
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Name: Muhammad Khubaib

Roll no: 23st017

Department : Software Engineering Technology

LAB8

GitHub Issues, Commits & Pull Requests

1. Fork the hackeruser240/SCM repo.
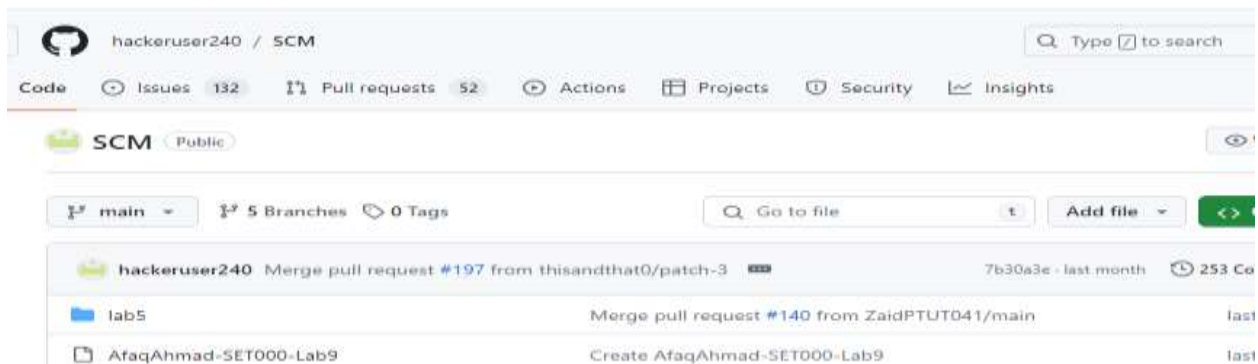
I have forked *hackeruser240/SCM* repo as required.

2. Create a new file with your name as the name of the file.

In the forked repo I have created a NEW file named as my name **"Muhammad Khubiab"** and added my roll no., department and name of subjects.

4. Merge the file to the hackeruser240/SCM by a PULL request.
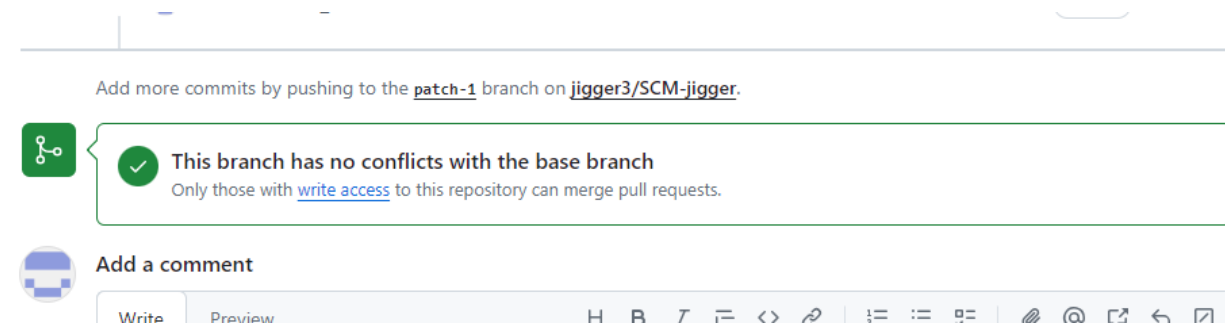
5. Open a previous closed pull request. You can use your own pull request you generated before. In that pull request, locate the 'Files Changed' tab.

6. Add a comment on the line you suggest a change by pointing at the start of the line and pressing the '+' sign. Click on 'Add single comment' and comment your suggestion.
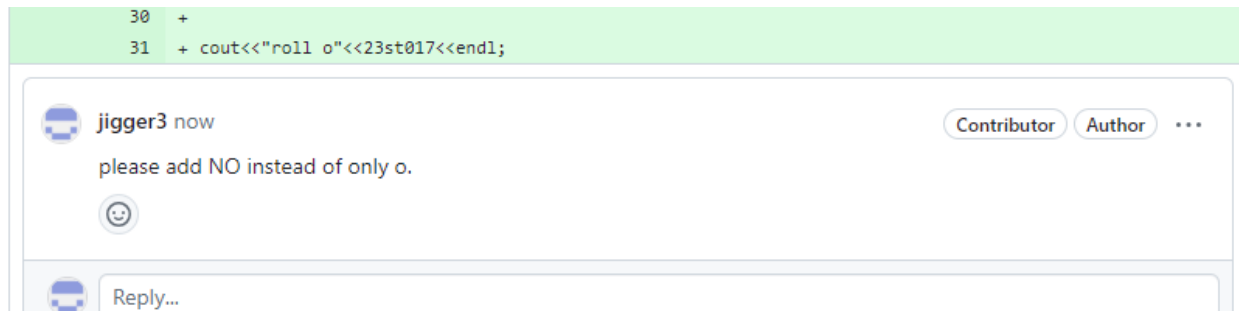
Now I have opened my previously closed pull request and I have commented a suggestion to add department name as well.

7. Click on the three dots at the top right of the comment and 'Reference this in a new issue' Note that up till this point, you found an issue in an old pull request and mentioned it to the admin of the repo using a pull request.
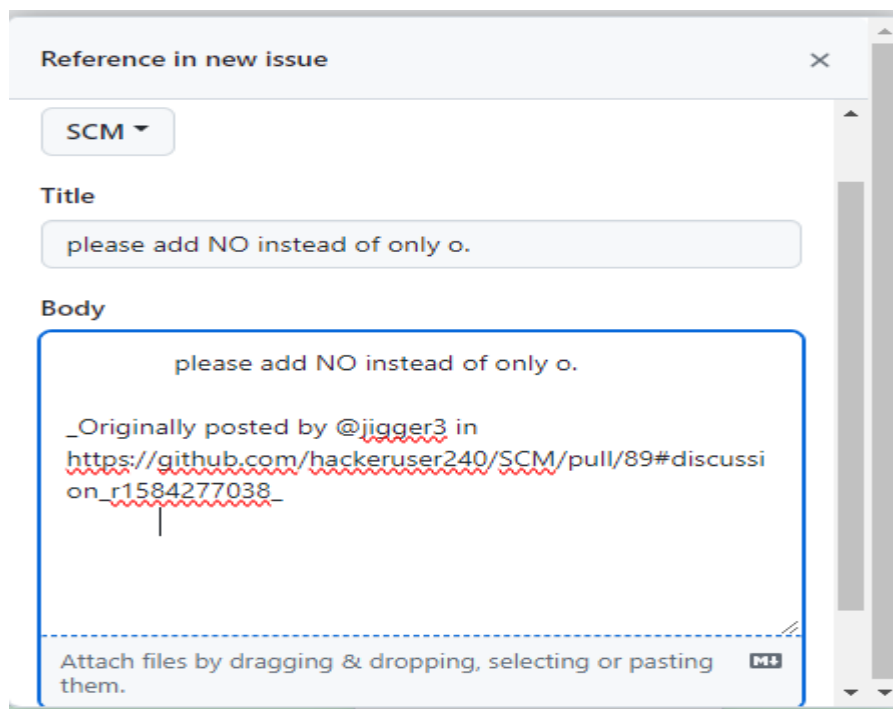
8. Now, go to the Issues tab to make sure you have submitted your issue and it is properly mentioning the suggestion you pointed out and also, it is mentioning the correct ID number of your Pull request.
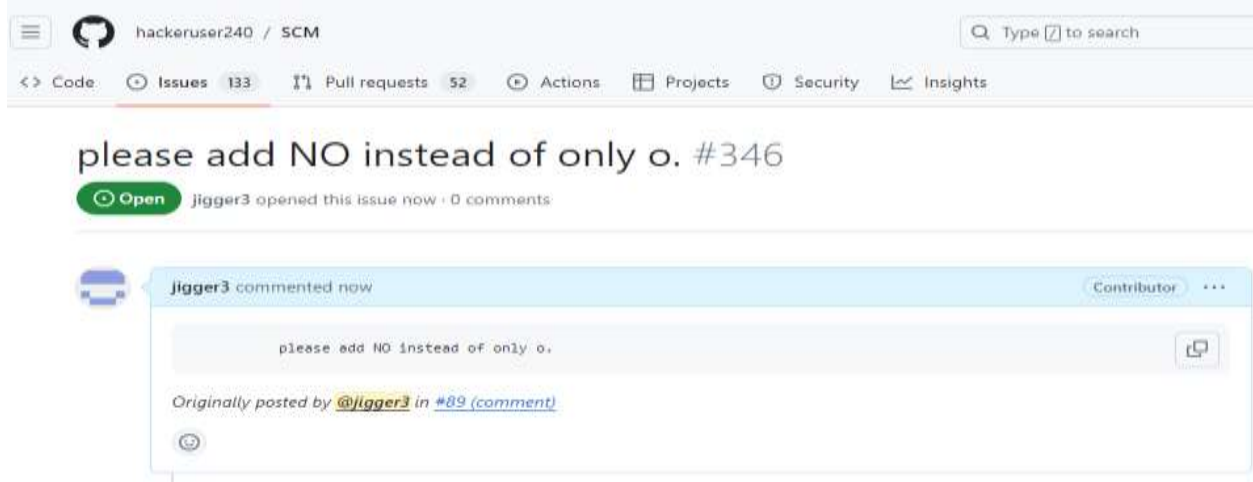
9. Go back to your Pull request and make/edit the change that you suggested previously.

10. Submit this change to the admin through a Pull request.

11. Go to the issue tab and open the issue you submitted. In the timeline, mention the ID and hash number of the Pull request you submitted in Step 10.

please add NO instead of only o. #346
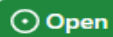
⊙ Open **jigger3** opened this issue last week · 0 comments

---

jigger3 commented last week · edited ▾

> please add NO instead of only o.

Originally posted by **@jigger3** *in* #89 *(comment)*
i resolve the issue by adding no instead of o
#349 f38604f

☺

Part-II: Using existing code to find and submit an issue

12. In the home section of hackeruser240/SCM, locate your pull request (that you sent in previous labs and which was merged) in the file.

Create Muhammad_Khubaib #345

⁑ Closed **jigger3** wants to merge 1 commit into hackeruser240:main from jigger3:patch-1 ⬗

13. Edit your file and add a comment by putting your mouse on the line number and clicking the three dots "…", then 'Referencing in a new issue'

∨ 3 ■■■ Muhammad_Khubaib

@@ -0,0 +1,3 @@

1 + Name: Muhammad Khubaib
2 + Department: Software Enginnering Technology
3 + Subject: discrete,Software Configration,OOPS,ISL,SDLC

jigger3 now   Contributor Author ...

I ADD ROLL NO

☺

Reply...

Resolve conversation
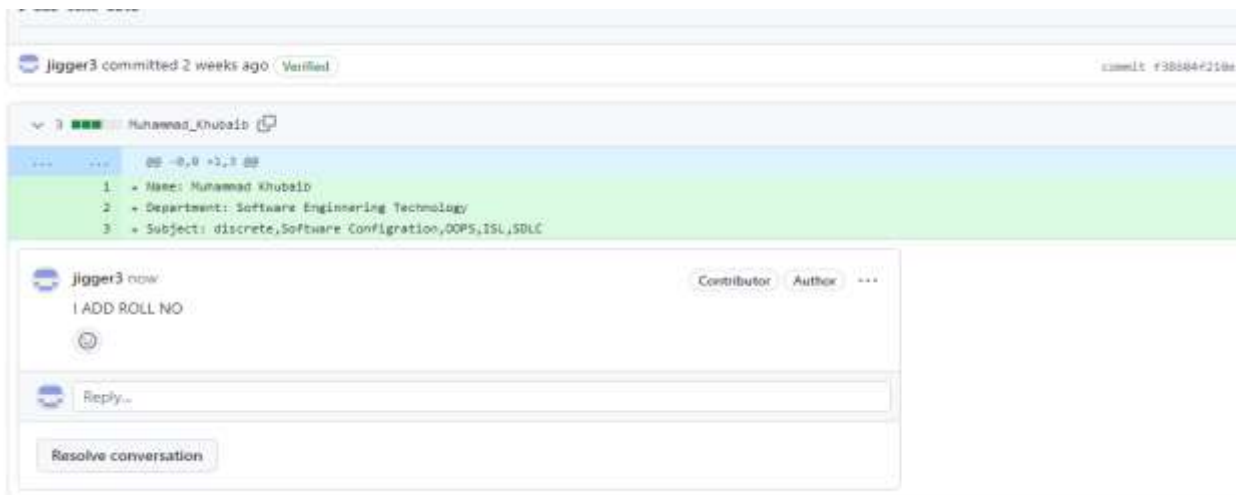
14. Once you commit your changes, submit a pull request to merge your change Note that up till this point, you found an issue in a line of code and mentioned it to the admin of the repo using a pull request.

```
17      windows
18      gate
19      wooden table
20      apples
21      bananas
22
23      new fruit:
24      mango & peach
25
26
27      cout<<"Muhammad Bilal Saleem"<<endl;
28      cout<<"23-SET-016"<<endl;
29
30
31      MUHAMMAD KHUBAIB
32      SET017
33
34
```

15. Now, in a separate pull request, make your changes, and submit a new Pull request. Note that in Step 14, you pointed out only an issue in the existing code. YOU PROPOSED THE SOLUTION IN STEP 15
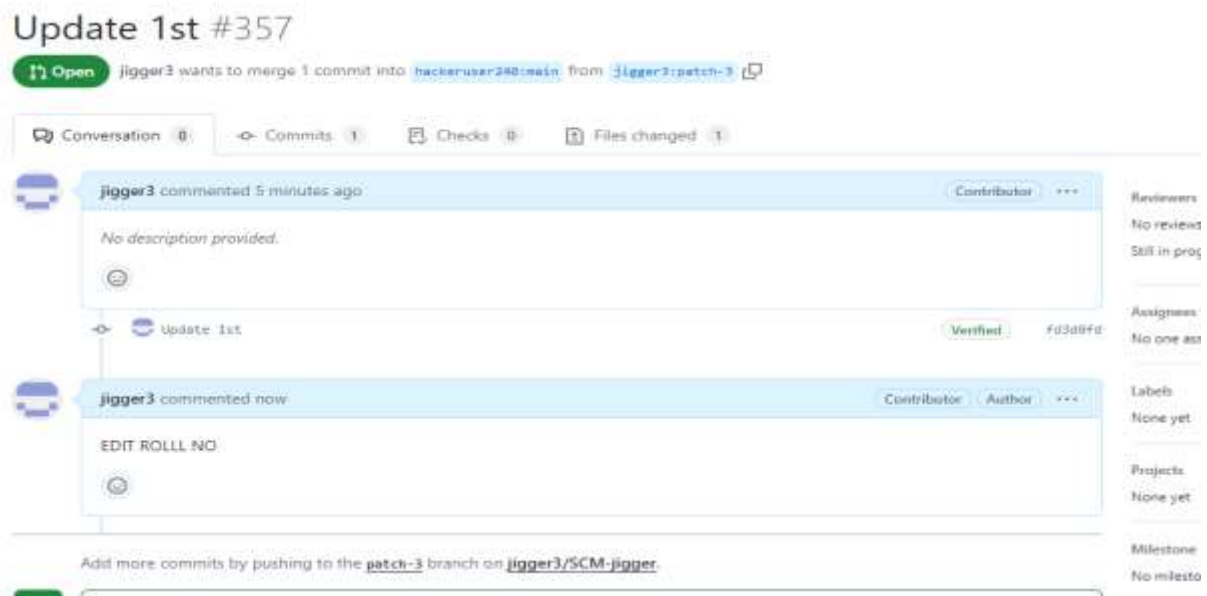
16. Go to the issue you created in Step 14 and add the comment indicating the ID of the pull request you proposed in Step 15.

17. Finally save your comment and submit your issue

I ADD ROLL NO #355

Open jigger3 opened this issue 11 minutes ago · 1 comment

Edit New Issue

jigger3 commented 11 minutes ago   Contributor ···

    I ADD ROLL NO

Originally posted by @jigger3 in #345 (comment)

jigger3 commented now   Contributor Author ···

I HAVE EDIT ROLL NO #356 #357

Assignees
No one assigned

Labels
None yet

Projects
None yet

Milestone
No milestone

Development
No branches or pull requests

GENERALIZED LAB RUBRICS

| Domain	Component with Taxonomy	Above Expectation (4)	Meeting Expectation (3)	Approaching Expectation (2)	Below Expectation (1)	Used	Weight / 100 (Optional)	Score (1–4)
Psychomotor	**Building** (Hardware)	Is able to build a given setup neatly and timely using correct hardware components and / or can reorganize / adapt to new / special requirements	Is able to assemble a given setup using correct hardware components after minor revisions	Is only able to copy a given setup using correct hardware components	Is not able to assemble a given setup using correct hardware components	☐		
Cognitive	**Recording Measurements** (Hardware / Software)	Is able to record accurate measurements all the time	Is able to record accurate measurements most of the time	Is only able to record accurate measurements on some occasions	Is unable to record accurate measurements	☐		
	Investigation (Software)	Is able to formulate /develop theories in addition to evaluating /concluding correctly about investigation parameters by assessing data	Is able to evaluate /conclude correctly about investigation parameters by assessing data	Is partially able to evaluate /conclude correctly about investigation parameters by assessing data	Is unable to comprehend investigation parameters	☐		
	Design / Development of Solution (Hardware / Software)	Is able to design / develop the solution of a given problem and add features to it	Is able to design / develop the solution of a given problem	Is able to partially design / develop the solution of a given problem	Is unable to partially design / develop the solution of a given problem	☐		
	Software Usage (Software)	Is adept in the use of software tool and can access advanced features	Is able to use the software tool effectively by accessing all the required features	Is able to use the software tool but cannot access all the required features	Is unable to use the software tool	☐		
	Programming Language (Software)	Is able to efficiently complete a given task using advanced programming language constructs / methods / commands and/or add features to the original task	Is able to complete a given task using required programming language constructs / methods / commands	Is able to partially complete a given task	Is unable to partially complete a given task	☐		

NAME: MUHAMMAD KHUBAIB

ROLLLNO: 23ST017

DEPARTMENT: SOFTWARE ENGINEERING TECHNOLOGY

LAB9

BASIC COMMAND OF GIT AS WELL AS WINDOW BASED CLI

1. **Download and install Git from https://git-scm.com/downloads on your computer.**
- Install the git.

2. **Search for "Git Bash" and open it.**

MINGW64:/c/Users/lenovo

novo@DESKTOP-QSLJNN4 MINGW64 ~
|

- Open Git Bash.
3. **Change the Git Bash theme to 'kohlrausch' setting.**
- Change the git bash theme.

4. **Find out the current working directory by executing the 'pwd' command.**

MINGW64:/c/Users/lenovo

```
lenovo@DESKTOP-QSLJNN4 MINGW64 ~
$ pwd
/c/Users/lenovo

lenovo@DESKTOP-QSLJNN4 MINGW64 ~
$ |
```
- Using pwd command to check location.
5. **Change your current directory from C drive to D drive using the cd command.**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 ~
$ cd D:\GIT_Practice

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/GIT_Pract
$ pwd
/d/GIT_Practice

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/GIT_Pract
```
- Using cd command to change file location.
6. **Create a new repository by executing git init 'you_repo_name' command. Remove the above commas and write your repo name. Your command should look like this: git init afaq_ahmad.**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/GIT_Practice
$ git init lab9

Initialized empty Git repository in D:/Git_Practice/lab9/.git/

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/GIT_Practice
$ dir
lab9
```

```
enovo@DESKTOP-QSLJNN4 MINGW64 /
; notepad khubaib.txt
```

- Create new repository.

7. **Go to file explorer GUI and create a new text file in your repo. In that file, add your name, roll number and department in three separate lines.**

```
File  Edit  Format  View  Help
Name:Muhammad Khubaib
Roll No:23ST017
Department:Software Engineering Technoogy
```

- Add data in new file.

8. **Go back to Git and display the contents of the current location using dir. It should display the file you created in GUI.**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/GIT_Practice/lab9 (master)
$ dir
khubaib.txt
```

- Using dir command to check file divectory.

9. **Now, view the status of your file by executing git status. You should see "No commits yet". You should see your text file (you created in Step 7) in the "Untracked files" section.**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/GIT_Practice/lab9 (master)
$ git status
On branch master

No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        khubaib.txt

nothing added to commit but untracked files present (use "git add" to track)
```

- Using git status command to check the status of file.

10. **Now, you will add your file to git stage using the git add command. Your command should look like:**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/GIT_Practice/lab9 (master)
$ git add khubaib.txt
```

- Using git add command for stag.

11. **Now view the status of your file by git status. You should see your text file in the 'Changes to be committed' section.**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/GIT_Practice/lab9 (master)
$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
        new file:   khubaib.txt
```

- Using git status command to check status after stag.

12. **Now, commit your file by using the git commit command. You will also comment on your commit as you do in GitHub as well. You will use the '-m' option. Look at the command below: git commit -m 'this is my first commit using git!'.**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/GIT_Practice/lab9 (master)
$ git commit khubaib.txt -m 'This Is my first Commit.'
[master (root-commit) 7e99cc0] This Is my first Commit.
 1 file changed, 3 insertions(+)
 create mode 100644 khubaib.txt

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/GIT_Practice/lab9 (master)
$ |
```

- Using git commit command to commit file after stag.

13. **Go back to GUI and add a new file with your roll number as the name in the location of your git repo. In that file, also add the list of the subjects and their finals grades. If you do not have grades, you can enter their total numbers. You can use sample values for this.**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/GIT_Practice/lab9 (master)
$ git init Rooll_Number
Initialized empty Git repository in D:/Git_Practice/lab9/Rooll_Number/.git/

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/GIT_Practice/lab9 (master)
$ pwd
/d/GIT_Practice/lab9


lenovo@DESKTOP-QSLJNN4 MINGW64 /d/GIT_Practice/lab9 (master)
$ notepad Rooll_Number_17
```

- To Create new file named roll number using it init command.

14. **Go back to CLI and list the contents of the directory of your repo. You should see your new file you created.**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/GIT_Practice/lab9 (master)
$ dir
Rooll_Number   Rooll_Number_17.txt   khubaib.txt
```

- Using dr command to check the directory of repo.

15. **Now, add this new file to git stage using git add.**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/GIT_Practice/lab9 (master)
$ git add Rooll_Number_17.txt
```

- Usind git command for stag.

16. **Do git status and check the status of your file. Your new file should be in the 'Untracked files' category.**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/GIT_Practice/lab9 (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        new file:   Rooll_Number_17.txt

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        Rooll_Number/
```

- Using git status command to check status after stage of file.

17. **Add your new file (file created in Step 12) to commit using git commit and add a message as well Save the repo you are working on. You will be using it in the next upcoming labs.**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/GIT_Practice/lab9 (master)
$ git commit Rooll_Number_17.txt -m"Second Commit"
[master 7707306] Second Commit
 1 file changed, 6 insertions(+)
 create mode 100644 Rooll_Number_17.txt

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/GIT_Practice/lab9 (master)
$ |
```

- Using git commit command to commit.

GENERALIZED LAB RUBRICS

Domain	Component with Taxonomy	Above Expectation (4)	Meeting Expectation (3)	Approaching Expectation (2)	Below Expectation (1)	Used	Weight / 100 (Optional)	Score (1–4)
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Name: Muhammad Khubaib

Roll No: 23ST017

Department: Software Engineering Technology

LAB_10

Part-I: Creating branches:

1. **Go to your master branch (you are already there) and create a new file. Name it 'List_of_Subjects'. You will use CLI for this step.**
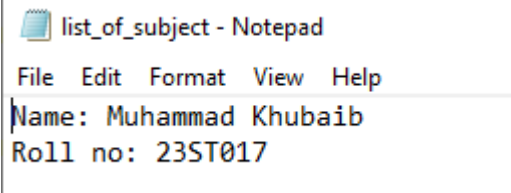
```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice
$ git init lab_10
Initialized empty Git repository in D:/Git_Practice/lab_10/.git/

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice
$ cd lab_10

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (master)
$ notepad list_of_subject
```

- Create a new file list-of-subject.

2. **Open your file and just add your name, save it and close it.**

```
list_of_subject - Notepad

File  Edit  Format  View  Help
Name: Muhammad Khubaib
Roll no: 23ST017
```

- Open the new file with notepad command and write name and roll no.

3. **Add your file to stage and then commit using git add and git commit**.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (master)
$ git add -A

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (master)
$ git commit list_of_subject.txt -m 'i have add the list of subject commit'
[master (root-commit) 762caf2] i have add the list of subject commit
 1 file changed, 2 insertions(+)
 create mode 100644 list_of_subject.txt
```

- Using git add and git commit command to commit the file list-of-subject.

4. **Apply git log.**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (master)
$ git log
commit 762caf2d820cb5b12446a4bb7da8ce561d11a986 (HEAD -> master)
Author: jigger3 <23-st-017@ptut.edu.pk>
Date:   Wed Apr 17 22:41:47 2024 -0700

    i have add the list of subject commit

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (master)
```

- Using git log command to check history.

5. **In your repo create a new branch using git branch command. You can use your own branch name git branch 1st_branch**.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (master)
$ git branch 1st_branch
```

- Create first branch with the command git branch.

6. **View the number of branches you have using git branch. The current branch will be highlighted a green color and will have a '*' symbol next to it.**
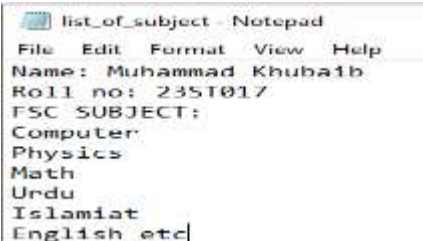
```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (master)
$ git branch
  1st_branch
* master
```

- Using git branch command only check the branch location.

7. **Create and move to a branch 'fsc_subjects' using the following commands:**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (master)
$ git branch fsc_subject

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (master)
$ git checkout fsc_subject
Switched to branch 'fsc_subject'
```

- Create a branch with the command git branch and switch to branch with command git checkout.

8. **In this branch, open List_of_Subjects (using the notepad command) and add your fsc_subjects. Save your file and close it.**

```
list_of_subject - Notepad
File  Edit  Format  View  Help
Name: Muhammad Khubaib
Roll no: 23ST017
FSC SUBJECT:
Computer
Physics
Math
Urdu
Islamiat
English etc
```

- Using notepad command add the fsc subject name in list of subject.

9. **Go to Git and add your file to the stage, then commit it.**

- **git add list_of_subjects.txt**

- **git commit -m 'add your description'**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (fsc_subject)
$ git add -A

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (fsc_subject)
$ git commit list_of_subject.txt -m 'i have add my fsc subject'
[fsc_subject 267debf] i have add my fsc subject
 1 file changed, 8 insertions(+), 1 deletion(-)
```

- using git add and git commit command to commit the fsc-branch.

10. **Apply git log.**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (fsc_subject)
$ git log
commit 267debf8d742c281fabd97b7ab8f83b8a85ebddc (HEAD -> fsc_subject)
Author: jigger3 <23-st-017@ptut.edu.pk>
Date:   Wed Apr 17 22:59:49 2024 -0700

    i have add my fsc subject

commit 762caf2d820cb5b12446a4bb7da8ce561d11a986 (master, 1st_branch)
Author: jigger3 <23-st-017@ptut.edu.pk>
Date:   Wed Apr 17 22:41:47 2024 -0700

    i have add the list of subject commit
```

- Using git log command to check history.

11. **Create a new branch named 'semester1'. Shift to this branch and add your subjects of 1st semester in List_of_Subjects. Save and close the file.**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (
$ git branch semmester1

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (
$ git checkout semmester1
Switched to branch 'semmester1'

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (
$ notepad list_of_subject.txt
```

```
*list_of_subject - Notepad
File  Edit  Format  View  Help
Name: Muhammad Khubaib
Roll no: 23ST017
FSC SUBJECT:
Computer
Physics
Math
Urdu
Islamiat
English etc
Semmeter1:
ICT
PROGRAMING
ISL
OHS
MATH
et
```

- Create a new branch semester1 and by using command git branch and switch to it by using git checkout command.
- Using notepad command add semmeste1 subject name.

12. Add this file to stage and then commit it to the semester1 branch.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (semmester1)
$ git add -A

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (semmester1)
$ git commit list_of_subject.txt -m 'i have add my semmester1 Subject'
[semmester1 1a1283a] i have add my semmester1 Subject
 1 file changed, 8 insertions(+), 1 deletion(-)
```

- using git add and git commit command to commit the semmeste1.

13. Do git log.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (semmester1)
$ git log
commit 1a1283a13a190f4c8d898a0a64976bca815476eb (HEAD -> semmester1)
Author: jigger3 <23-st-017@ptut.edu.pk>
Date:   Wed Apr 17 23:08:08 2024 -0700

    i have add my semmester1 Subject

commit 267debf8d742c281fabd97b7ab8f83b8a85ebddc (fsc_subject)
Author: jigger3 <23-st-017@ptut.edu.pk>
Date:   Wed Apr 17 22:59:49 2024 -0700

    i have add my fsc subject

commit 762caf2d820cb5b12446a4bb7da8ce561d11a986 (master, 1st_branch)
Author: jigger3 <23-st-017@ptut.edu.pk>
Date:   Wed Apr 17 22:41:47 2024 -0700

    i have add the list of subject commit
```

- Using git log command to check history.

14. **Create a new branch name 'semester2' and add the subjects of Semester 2 in this file of the branch.**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (semmester1)
$ git branch semmester2

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (semmester1)
$ git checkout semmester2
Switched to branch 'semmester2'

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (semmester2)
$ notepad list_of_subject.txt
```

```
Name: Muhammad Khubaib
Roll no: 23ST017
FSC SUBJECT:
Computer
Physics
Math
Urdu
Islamiat
English etc
Semmeter1:
ICT
PROGRAMING
ISL
OHS
MATH
et
Semmester2:
Discrete Structure, Software Configration
probablity,OOPs,isl,etc
```

- Create a new branch semester2 and by using command git branch and switch to it by using git checkout command
- Using notepad command add semmeste2 subject name.

15. **(Repeat), add and then commit the file with description to the semester2 branch.**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (semmester2)
$ git add -A

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (semmester2)
$ git commit list_of_subject.txt -m 'i have add my 2nd Semmester subject'
[semmester2 3eaecf2] i have add my 2nd Semmester subject
 1 file changed, 5 insertions(+), 1 deletion(-)
```

- using git add and git commit command to commit the semmeste2.

16. **Do git log.**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (semmester2)
$ git log
commit 3eaecf2028dccb251e04ae66ad0631d902972ecd (HEAD -> semmester2)
Author: jigger3 <23-st-017@ptut.edu.pk>
Date:   Wed Apr 17 23:16:18 2024 -0700

    i have add my 2nd Semmester subject

commit 1a1283a13a190f4c8d898a0a64976bca815476eb (semmester1)
Author: jigger3 <23-st-017@ptut.edu.pk>
Date:   Wed Apr 17 23:08:08 2024 -0700

    i have add my semmester1 Subject

commit 267debf8d742c281fabd97b7ab8f83b8a85ebddc (fsc_subject)
Author: jigger3 <23-st-017@ptut.edu.pk>
Date:   Wed Apr 17 22:59:49 2024 -0700

    i have add my fsc subject

commit 762caf2d820cb5b12446a4bb7da8ce561d11a986 (master, 1st_branch)
Author: jigger3 <23-st-017@ptut.edu.pk>
Date:   Wed Apr 17 22:41:47 2024 -0700

    i have add the list of subject commit
```

- Using git log command to check history.

Part-II: Merging branches:

17. **Go to the semester1 branch. Merge the semester2 branch in it. Note: This will cause the 2nd semester subjects to appear in the List_of_Subjects file the semester1 branch has. git merge s2.**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (semmester2)
$ git checkout semmester1
Switched to branch 'semmester1'

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (semmester1)
$ merge semmester2
bash: merge: command not found

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (semmester1)
$ git merge semmester2
Updating 1a1283a..3eaecf2
Fast-forward
 list_of_subject.txt | 6 +++++-
 1 file changed, 5 insertions(+), 1 deletion(-)
```

- Using git checkout command switch to branch semmeste1 then using git merge command and merge the semester2 branch in semester1 branch.

18. **Merge semester1 in fsc_subjects.**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (semmester1)
$ git checkout fsc_subject
Switched to branch 'fsc_subject'

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (fsc_subject)
$ git merge semmester1
Updating 267debf..3eaecf2
Fast-forward
 list_of_subject.txt | 13 +++++++++++++-
 1 file changed, 12 insertions(+), 1 deletion(-)
```

- Using git checkout command switch to branch fsc-subject then using git merge command and merge the semester1 branch in fsc-branch branch.

19. **Now go to the master branch and merge the fsc_subjects**.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (fsc_subject)
$ git checkout master
Switched to branch 'master'

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (master)
$ git merge fsc_subject
Updating 762caf2..3eaecf2
Fast-forward
 list_of_subject.txt | 20 ++++++++++++++++++++-
 1 file changed, 19 insertions(+), 1 deletion(-)

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (master)
$ |
```

- Using git checkout command switch to branch master then using git merge command and merge the fsc-branch branch in master branch.

20. **Check the status of all the branches you have.**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (master)
$ git status
On branch master
nothing to commit, working tree clean
```

- Using git status command to check status.
21. **To check the history of the changes/commits made, execute the command git log.**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_10 (master)
$ git log
commit 3eaecf2028dccb251e04ae66ad0631d902972ecd (HEAD -> master, semmester2, semmester1
, fsc_subject)
Author: jigger3 <23-st-017@ptut.edu.pk>
Date:   Wed Apr 17 23:16:18 2024 -0700

    i have add my 2nd Semmester subject

commit 1a1283a13a190f4c8d898a0a64976bca815476eb
Author: jigger3 <23-st-017@ptut.edu.pk>
Date:   Wed Apr 17 23:08:08 2024 -0700

    i have add my semmester1 Subject

commit 267debf8d742c281fabd97b7ab8f83b8a85ebddc
Author: jigger3 <23-st-017@ptut.edu.pk>
Date:   Wed Apr 17 22:59:49 2024 -0700

    i have add my fsc subject

commit 762caf2d820cb5b12446a4bb7da8ce561d11a986 (1st_branch)
Author: jigger3 <23-st-017@ptut.edu.pk>
Date:   Wed Apr 17 22:41:47 2024 -0700
```

- Using git log command to check history.

GENERALIZED LAB RUBRICS

Domain	Component with Taxonomy	Above Expectation (4)	Meeting Expectation (3)	Approaching Expectation (2)	Below Expectation (1)	Used	Weight / 100 (Optional)	Score (1–4)
Psychomotor	**Building** (Hardware)	Is able to build a given setup neatly and timely using correct hardware components and / or can reorganize / adapt to new / special requirements	Is able to assemble a given setup using correct hardware components after minor revisions	Is only able to copy a given setup using correct hardware components	Is not able to assemble a given setup using correct hardware components	☐		
Cognitive	**Recording Measurements** (Hardware / Software)	Is able to record accurate measurements all the time	Is able to record accurate measurements most of the time	Is only able to record accurate measurements on some occasions	Is unable to record accurate measurements	☐		
	Investigation (Software)	Is able to formulate /develop theories in addition to evaluating /concluding correctly about investigation parameters by assessing data	Is able to evaluate /conclude correctly about investigation parameters by assessing data	Is partially able to evaluate /conclude correctly about investigation parameters by assessing data	Is unable to comprehend investigation parameters	☐		
	Design / Development of Solution (Hardware / Software)	Is able to design / develop the solution of a given problem and add features to it	Is able to design / develop the solution of a given problem	Is able to partially design / develop the solution of a given problem	Is unable to partially design / develop the solution of a given problem	☐		
	Software Usage (Software)	Is adept in the use of software tool and can access advanced features	Is able to use the software tool effectively by accessing all the required features	Is able to use the software tool but cannot access all the required features	Is unable to use the software tool	☐		
	Programming Language (Software)	Is able to efficiently complete a given task using advanced programming language constructs / methods / commands and/or add features to the original task	Is able to complete a given task using required programming language constructs / methods / commands	Is able to partially complete a given task	Is unable to partially complete a given task	☐		

NAME: MUHAMMAD KHUBAIB

ROLL NO: 23ST017

DEPARTMENT: SOFTWARE ENGINEERING TECHNOLOGY

LAB11

Commands of Git and integrate it with Git hub

1.   Open your repo in Git bash by using the cd command (if you are currently in C drive).

```
lenovo@DESKTOP-QSLJNN4 MINGW64 ~
$ cd '/d/git_Practice'

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice
$ git init lab_11
Initialized empty Git repository in D:/Git_Practice/lab_11/.git/

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice
$ cd lab_11
```

2.   Display your contents using dir.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_11 (master)
$ dir

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_11 (master)
$ git status
```

3.   Display your git status for your current master branch.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_11 (master)
$ git status
On branch master

No commits yet

nothing to commit (create/copy files and use "git add" to track)
```

4. Create your new repo on GitHub with the exact same name as your local repo. Do NOT

add the 'Read Me' file.
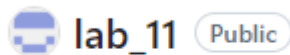
Part-I: Pushing your code to a remote Repo

5. Git needs to know which remote repo to upload to. For this, execute:

git remote add origin <your link>

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_Practice/lab_11 (master)
$ git remote add origin https://github.com/jigger3/lab_11.git
```

6. Create an repo, add a file, stage it and then commit it.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 ~/lab_11 (master)
$ notepad sample

lenovo@DESKTOP-QSLJNN4 MINGW64 ~/lab_11 (master)
$ git add sample.txt

lenovo@DESKTOP-QSLJNN4 MINGW64 ~/lab_11 (master)
$ git commit -m "add sample file"
[master (root-commit) 8df92c4] add sample file
 1 file changed, 2 insertions(+)
 create mode 100644 sample.txt
```

7. **To upload your code from your computer (local repo) to GitHub (remote repo), you need to push your code: git push -u origin master.**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 ~/lab_11 (master)
$ git push -u origin master

Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Writing objects: 100% (3/3), 229 bytes | 57.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/jigger3/lab_11.git
 * [new branch]      master -> master
branch 'master' set up to track 'origin/master'.
```

8. From GitHub, attach the network graph.

Network graph

Timeline of the most recent commits to this repository and its network ordered by most recently pushed to.

Owners	Apr
	24
jigger3	master

Part-II: Making changes in GitHub

9. In GitHub, go any file in the main branch, make a change and commit it (all on GitHub).

lab_11 / sample.txt   in master

| Edit | Preview | 🐙 Code 55% faster with GitHub Copilot |

```
1     Khubaib
2     23st017
3     //kdhsqucs//|
```

Part-III: Pulling the code from the GitHub repo using git diff and git merge

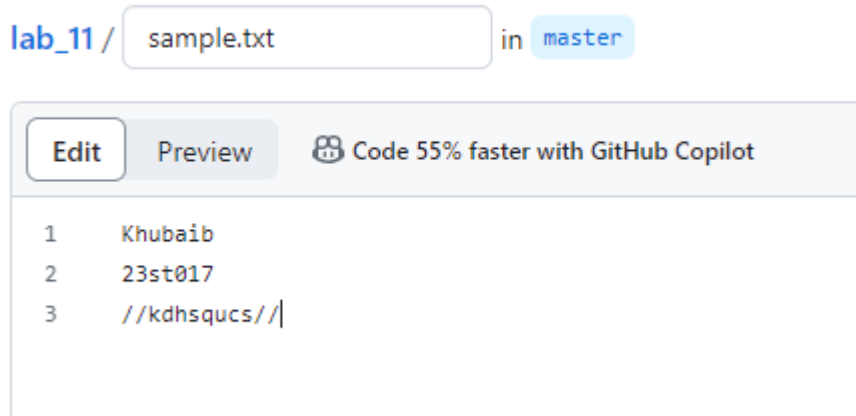**10. Find out the changes/history made in the remote repo (if any) using: git fetch origin.**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 ~/lab_11 (master)
$ git fetch origin
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 938 bytes | 26.00 KiB/s, done.
From https://github.com/jigger3/lab_11
   8df92c4..514b360  master     -> origin/master

lenovo@DESKTOP-QSLJNN4 MINGW64   /lab 11 (master)
```

11. Check the status of your local repo.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 ~/lab_11 (master)
$ git status
On branch master
Your branch is behind 'origin/master' by 1 commit, and can be fast-forwarded.
  (use "git pull" to update your local branch)

nothing to commit, working tree clean
```

12. Is your branch behind any the branch of 'origin/master'? Write your answer.

Yes

13. Find out the difference between master (local repo) and origin/master (remote repo) using: git diff origin/master.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 ~/lab_11 (master)
$ git diff origin/master
diff --git a/sample.txt b/sample.txt
index b97c7c2..5709bdc 100644
--- a/sample.txt
+++ b/sample.txt
@@ -1,3 +1,2 @@
 Khubaib
-23st017
-//kdhsqucs//
+23st017
\ No newline at end of file
```

From the display given, write what is the difference?

Ans=I add a new line in sample.txt in through git hub.

14. Do git log.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 ~/lab_11 (master)
$ git log
commit 8df92c4f520537187335acafcd9790b247e21597 (HEAD -> master)
Author: jigger3 <23-st-017@ptut.edu.pk>
Date:   Wed Apr 24 22:42:24 2024 -0700

    add sample file
```

15. To make sure you are up-to-date, you download and merge the changes (the changes you made in Step 12 & 13) in your local repo using: git merge origin/master.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 ~/lab_11 (master)
$ git merge origin/master
Updating 8df92c4..514b360
Fast-forward
 sample.txt | 3 ++-
 1 file changed, 2 insertions(+), 1 deletion(-)

lenovo@DESKTOP-QSLJNN4 MINGW64  /lab 11 (master)
```

16. Check the status to make sure that the changes made in in Step 12 & 13 are reflected/copied/download in your local repo

```
lenovo@DESKTOP-QSLJNN4 MINGW64 ~/lab_11 (master)
$ git status
On branch master
Your branch is up to date with 'origin/master'.

nothing to commit, working tree clean
```

Part-IV: Uploading a different branch to GitHub

17. In your Git repo, create a new branch from master and make some changes to the file.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 ~/lab_11 (master)
$ git branch 1stbranch

lenovo@DESKTOP-QSLJNN4 MINGW64 ~/lab_11 (master)
$ git checkout 1stbranch
Switched to branch '1stbranch'
```

18. Stage and commit your changes.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 ~/lab_11 (1stbranch)
$ git add .

lenovo@DESKTOP-QSLJNN4 MINGW64 ~/lab_11 (1stbranch)
$ git co
commit    config

lenovo@DESKTOP-QSLJNN4 MINGW64 ~/lab_11 (1stbranch)
$ git commit -m "Made Change in new branch"
[1stbranch 906a024] Made Change in new branch
 1 file changed, 1 insertion(+)
```

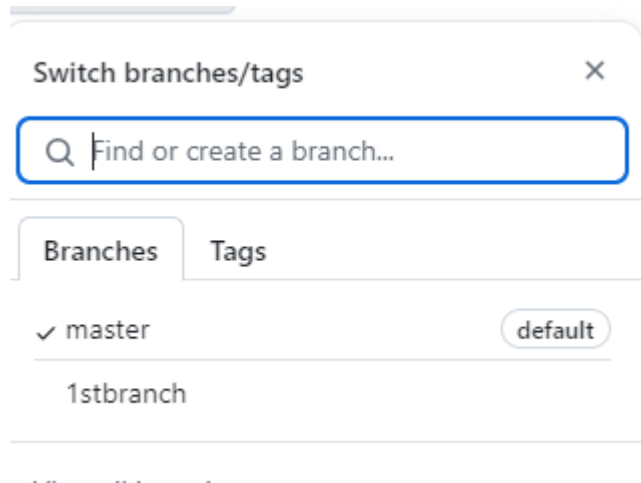**19. Upload this branch using push command.**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 ~/lab_11 (1stbranch)
$ git push origin 1stbranch
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Writing objects: 100% (3/3), 293 bytes | 146.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
remote:
remote: Create a pull request for '1stbranch' on GitHub by visiting:
remote:        https://github.com/jigger3/lab_11/pull/new/1stbranch
remote:
To https://github.com/jigger3/lab_11.git
 * [new branch]        1stbranch -> 1stbranch

lenovo@DESKTOP-QSLJNN4 MINGW64 ~/lab_11 (1stbranch)
$ |
```
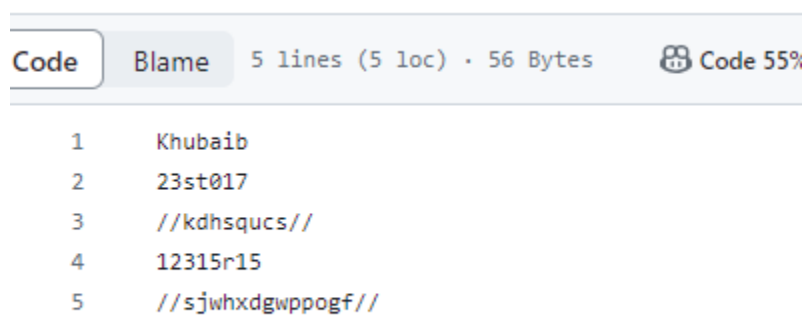
20. On GitHub, verify that this branch has been uploaded.

Switch branches/tags   ✕

Q Find or create a branch...

Branches   Tags

✓ master   default

1stbranch

21. On GitHub, make any change to the file on this current (new) branch.

Code   Blame   5 lines (5 loc) · 56 Bytes   Code 55%

1   Khubaib
2   23st017
3   //kdhsqucs//
4   12315r15
5   //sjwhxdgwppogf//

22. Go back to Git, check out what message it given to you using git fetch origin.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 ~/lab_11 (1stbranch)
$ git fetch origin
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 969 bytes | 31.00 KiB/s, done.
From https://github.com/jigger3/lab_11
   906a024..9e56b13  1stbranch  -> origin/1stbranch
```

23. Also execute git diff origin/<your_new_branch_name> command.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 ~/lab_11 (1stbranch)
$ git diff origin/1stbranch
diff --git a/sample.txt b/sample.txt
index c1b0c00..ef76516 100644
--- a/sample.txt
+++ b/sample.txt
@@ -2,4 +2,3 @@ Khubaib
 23st017
 //kdhsqucs//
 12315r15
-//sjwhxdgwppogf//

lenovo@DESKTOP-QSLJNN4 MINGW64 ~/lab_11 (1stbranch)
$ |
```

24. To merge this change, you will use: git merge origin/<your_new_branch_name>.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 ~/lab_11 (1stbranch)
$ git merge origin/1stbranch
Updating 906a024..9e56b13
Fast-forward
 sample.txt | 1 +
 1 file changed, 1 insertion(+)
```

GENERALIZED LAB RUBRICS

Domain	Component with Taxonomy	Above Expectation (4)	Meeting Expectation (3)	Approaching Expectation (2)	Below Expectation (1)	Used	Weight / 100 (Optional)	Score (1–4)
Psychomotor	**Building** (Hardware)	Is able to build a given setup neatly and timely using correct hardware components and / or can reorganize / adapt to new / special requirements	Is able to assemble a given setup using correct hardware components after minor revisions	Is only able to copy a given setup using correct hardware components	Is not able to assemble a given setup using correct hardware components	☐		
Cognitive	**Recording Measurements** (Hardware / Software)	Is able to record accurate measurements all the time	Is able to record accurate measurements most of the time	Is only able to record accurate measurements on some occasions	Is unable to record accurate measurements	☐		
	Investigation (Software)	Is able to formulate /develop theories in addition to evaluating /concluding correctly about investigation parameters by assessing data	Is able to evaluate /conclude correctly about investigation parameters by assessing data	Is partially able to evaluate /conclude correctly about investigation parameters by assessing data	Is unable to comprehend investigation parameters	☐		
	Design / Development of Solution (Hardware / Software)	Is able to design / develop the solution of a given problem and add features to it	Is able to design / develop the solution of a given problem	Is able to partially design / develop the solution of a given problem	Is unable to partially design / develop the solution of a given problem	☐		
	Software Usage (Software)	Is adept in the use of software tool and can access advanced features	Is able to use the software tool effectively by accessing all the required features	Is able to use the software tool but cannot access all the required features	Is unable to use the software tool	☐		
	Programming Language (Software)	Is able to efficiently complete a given task using advanced programming language constructs / methods / commands and/or add features to the original task	Is able to complete a given task using required programming language constructs / methods / commands	Is able to partially complete a given task	Is unable to partially complete a given task	☐		

NAME: MUHAMMAD KHUBAIB

ROLL NO: 23ST017

DEPARTMENT: SOFTWARE ENGINNERING TECHNOLOGY

LAB12

Git: Pushing & Pulling of Local to Remote repo
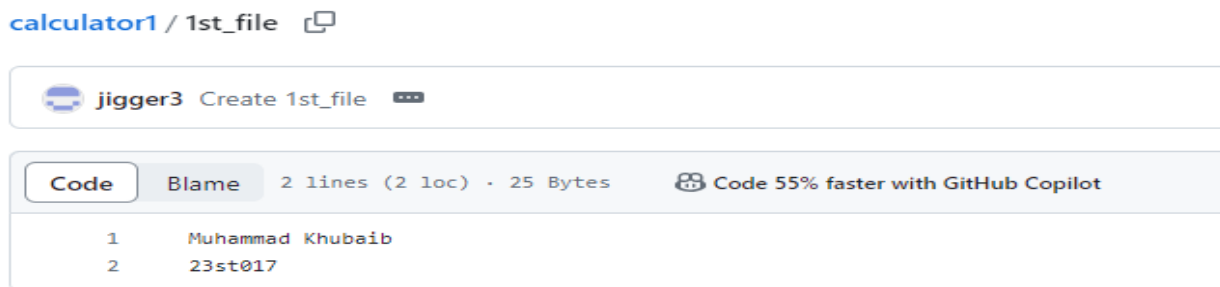
Part-I:

1. Create 'Calculator' repo in GitHub.

- Crate a repo name calculator

2. On your computer, create a new repo in Git.

```
$ cd calculator1/

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/lab_12/calculator1 (master)
$ |
```

- Create repo on git same name.

3. **In GitHub, create a simple file and add your name and roll number and commit it to master branch.**

calculator1 / 1st_file

jigger3 Create 1st_file

Code | Blame | 2 lines (2 loc) · 25 Bytes | Code 55% faster with GitHub Copilot

```
1    Muhammad Khubaib
2    23st017
```
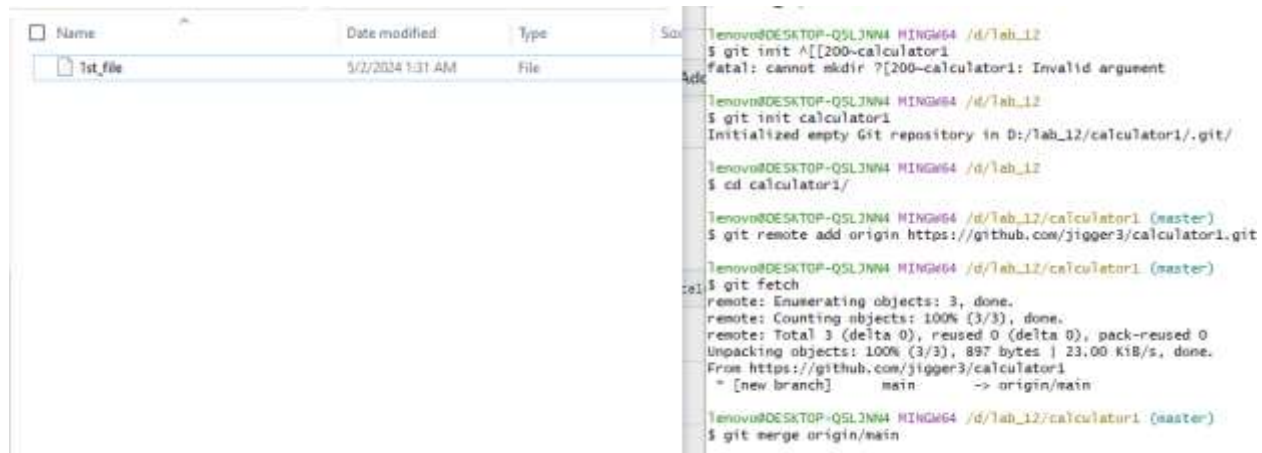
- Add roll no and name in 1ˢᵗ file and commit it to main branch.

4. **Back in Git, your need to copy these changes on your local repo. You will use git fetch for any change.**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/lab_12/calculator1 (master)
$ git remote add origin https://github.com/jigger3/calculator1.git

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/lab_12/calculator1 (master)
$ git fetch
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 897 bytes | 23.00 KiB/s, done.
From https://github.com/jigger3/calculator1
 * [new branch]      main       -> origin/main
```

- Using git remote add origin branch to switch to remote repository in github.
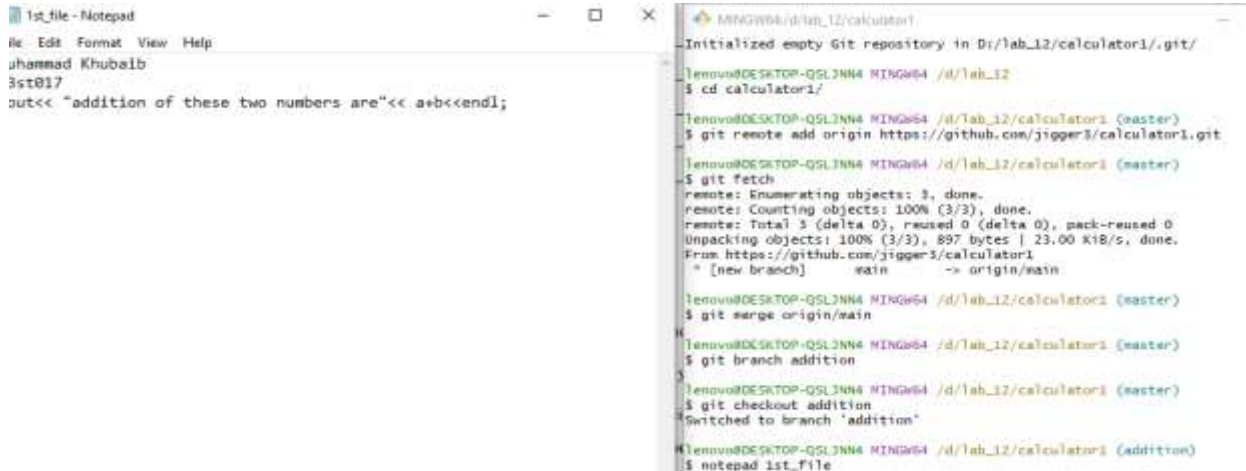
5. **If you have any change, merge it to your local Git repo.**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/lab_12
$ git init ^[[200~calculator1
fatal: cannot mkdir ?[200~calculator1: Invalid argument

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/lab_12
$ git init calculator1
Initialized empty Git repository in D:/lab_12/calculator1/.git/

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/lab_12
$ cd calculator1/

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/lab_12/calculator1 (master)
$ git remote add origin https://github.com/jigger3/calculator1.git

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/lab_12/calculator1 (master)
$ git fetch
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 897 bytes | 23.00 KiB/s, done.
From https://github.com/jigger3/calculator1
 * [new branch]      main       -> origin/main

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/lab_12/calculator1 (master)
$ git merge origin/main
```

Name	Date modified	Type	Si
1st_file	5/2/2024 1:31 AM	File	

- Merge the first file in the main branch.

Part-II: Creating 'Addition' branch

6. In Git, create a new branch 'Addition'. Add a new line to add two numbers. Save the file.

- Create a addition branch and using checkout command to switch addition branch.

7. Stage the addition branch.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/lab_12/calculator1 (addition)
$ git add -A
```

- Stage the addition branch by using git add command.

8. Commit it by adding a useful comment.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/lab_12/calculator1 (addition)
$ git commit 1st_file -m 'I have added a line of c++ to add two objects'
[addition acf0c16] I have added a line of c++ to add two objects
 1 file changed, 1 insertion(+)
```
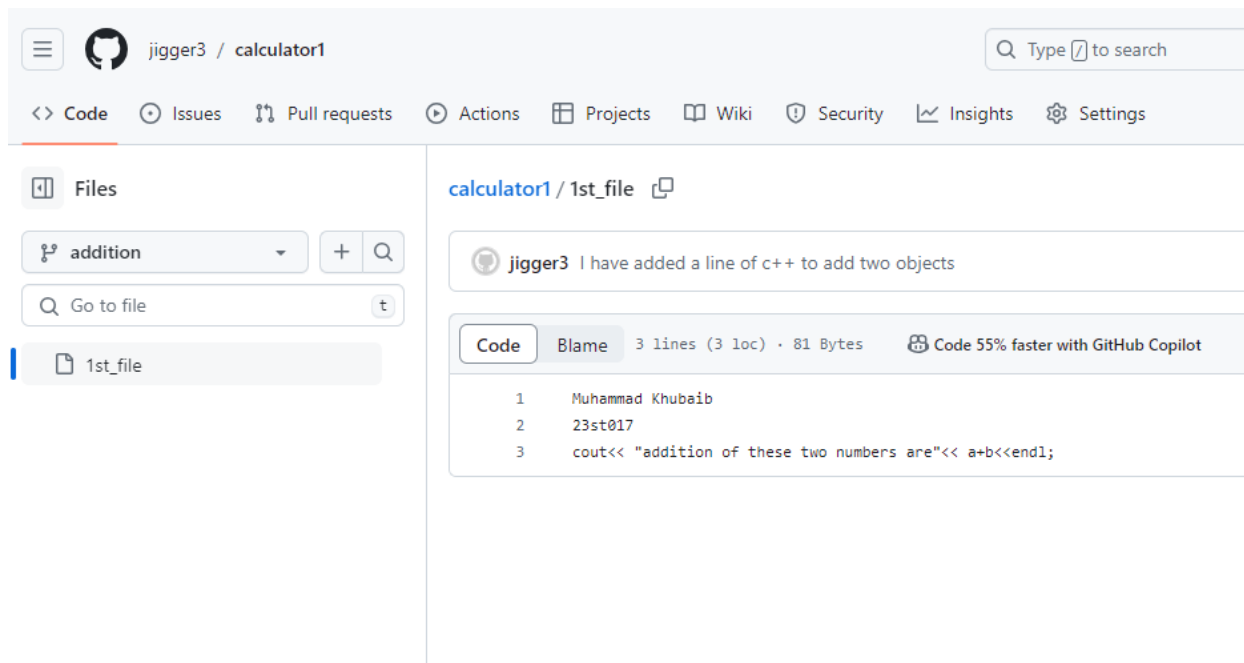
- Commit the addition branch by using git commit after stage.

9. Now push this branch to GitHub using: git push origin addition.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/lab_12/calculator1 (addition)
$ git push origin addition
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 4 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 341 bytes | 341.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
remote:
remote: Create a pull request for 'addition' on GitHub by visiting:
remote:       https://github.com/jigger3/calculator1/pull/new/addition
remote:
To https://github.com/jigger3/calculator1.git
 * [new branch]      addition -> addition
```

- Push to github addition branch by using git push origin command.

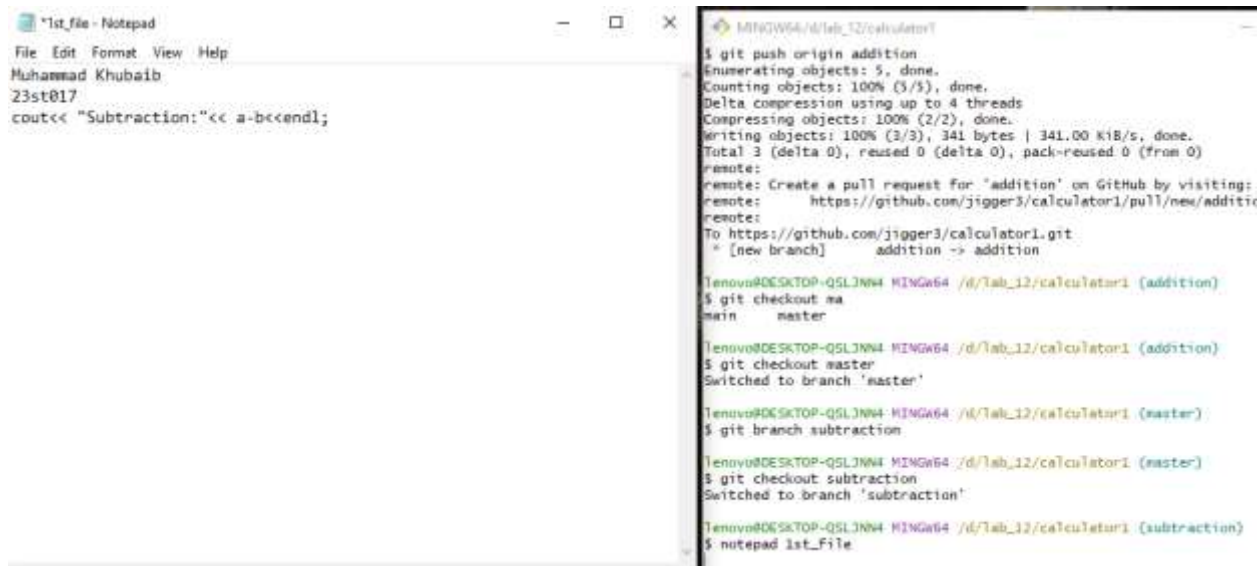**10. In GitHub, verify that this branch has been uploaded and contains the necessary line of codes.**

- In github.

Part-III: Creating 'Subtraction branch

11. Repeat the five steps (of Part-I) for 'Subtraction' branch.

- Create a substraction branch and using checkout command to switch substraction branch.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/lab_12/calculator1 (subtraction)
$ git add -A
```

- Stage the substraction branch by using git add command.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/lab_12/calculator1 (subtraction)
$ git commit 1st_file -m 'added line tosubtract two numbers'
[subtraction 032f373] added line tosubtract two numbers
 1 file changed, 1 insertion(+)
```

- Commit the substration branch by using git commit after stage.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/lab_12/calculator1 (subtraction)
$ git push origin subtraction
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 4 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 314 bytes | 314.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
remote:
remote: Create a pull request for 'subtraction' on GitHub by visiting:
remote:        https://github.com/jigger3/calculator1/pull/new/subtraction
remote:
To https://github.com/jigger3/calculator1.git
 * [new branch]      subtraction -> subtraction
```

- Push to github substraction branch by using git push origin command.

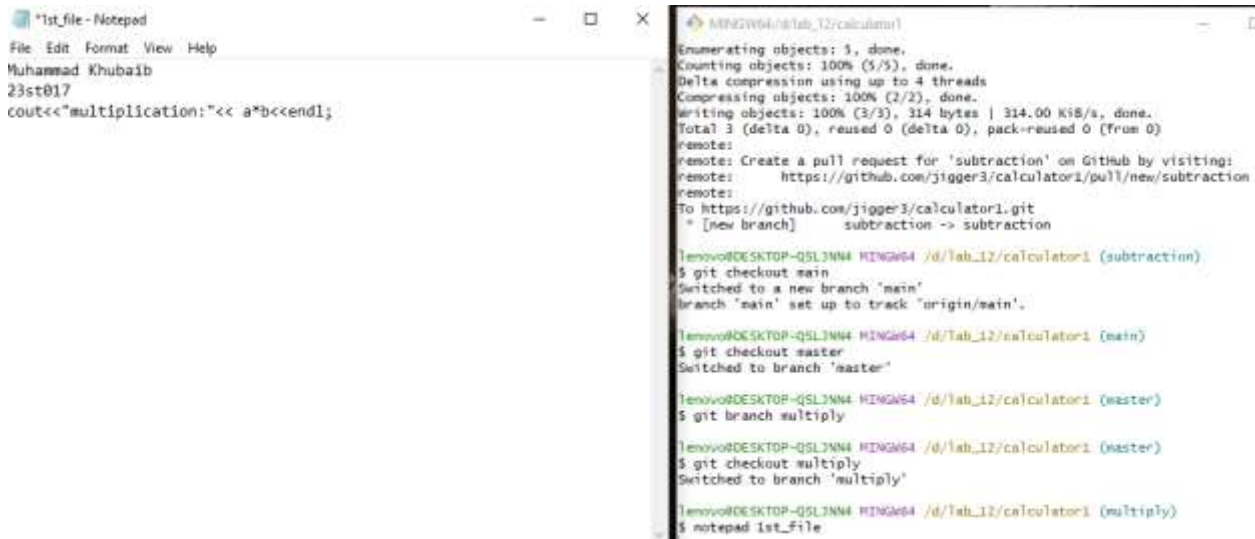| Code | Blame | 7 lines (4 loc) · 119 Bytes | 🐙 Code 55% faster with GitHub Copilot |

```
1    Muhammad Khubaib
2    23st017
3
4    cout<< "Subtraction:"<< a-b<<endl;
5
```

- In github.

Part-IV: Creating 'Multiplication' branch

12. Repeat the five steps (of Part-I) for 'Multiplication branch.

- Create a Multiplication branch and using checkout command to switch substraction branch.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/lab_12/calculator1 (multiply)
$ git add -A
```

- Stage the Multiplication branch by using git add command.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/lab_12/calculator1 (multiply)
$ git commit 1st_file -m 'Added a new file to multiply two objects'
[multiply 90a5115] Added a new file to multiply two objects
 1 file changed, 1 insertion(+)
```
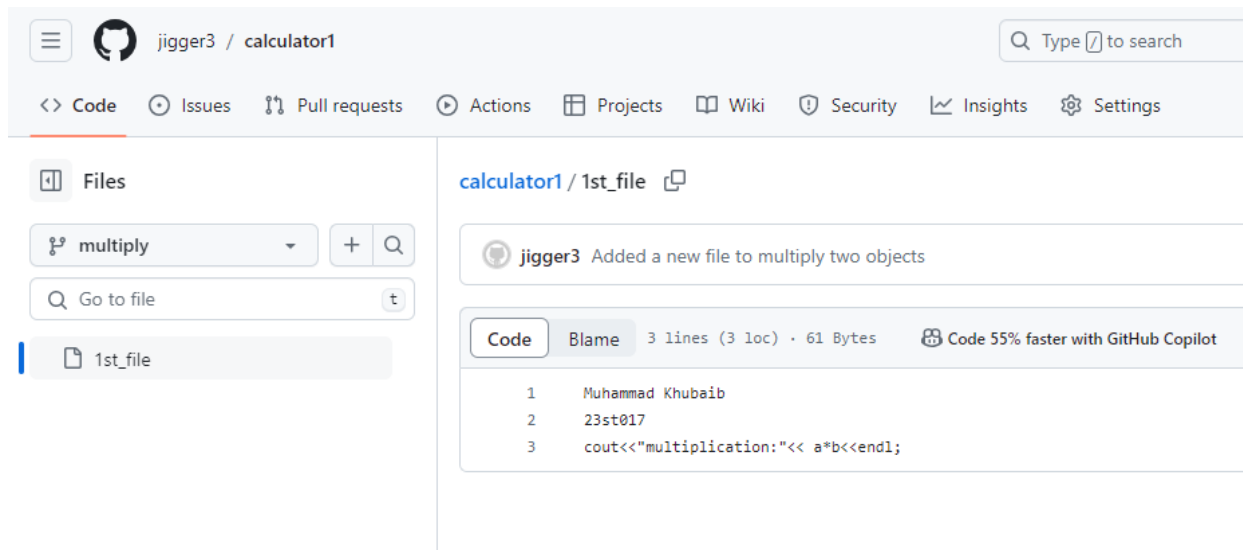
- Commit the Multiplication branch by using git commit after stage.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/lab_12/calculator1 (multiply)
$ git push origin multiply
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 4 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 323 bytes | 323.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
remote:
remote: Create a pull request for 'multiply' on GitHub by visiting:
remote:      https://github.com/jigger3/calculator1/pull/new/multiply
remote:
To https://github.com/jigger3/calculator1.git
 * [new branch]      multiply -> multiply
```
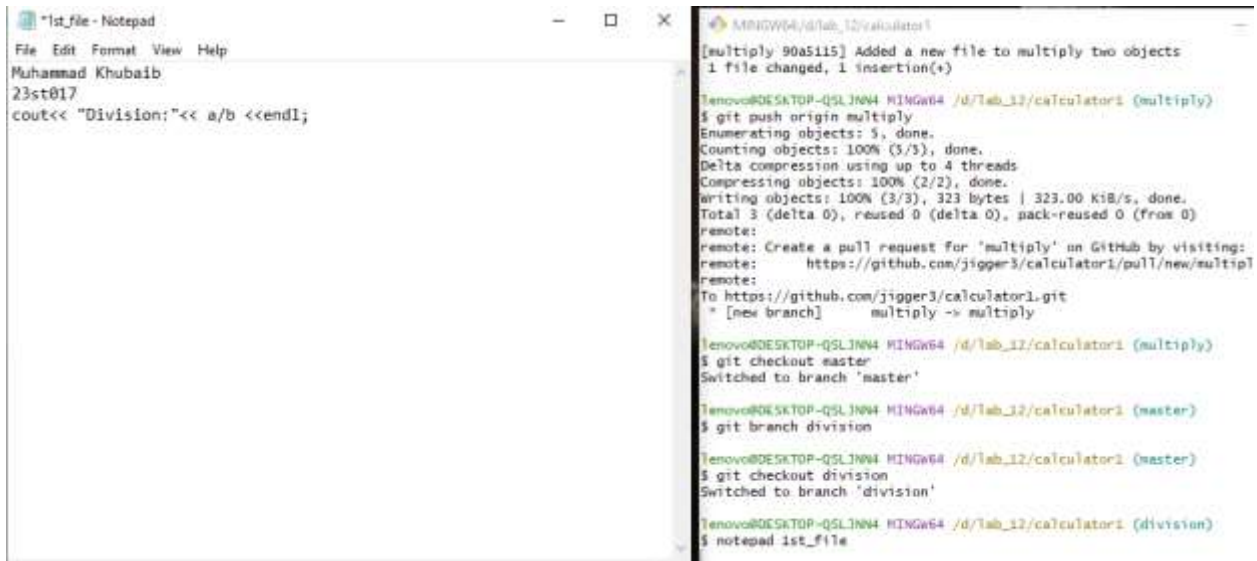
- Push to github Multiplication branch by using git push origin command.

- In github.

Part-V: Creating 'Division branch

13. Repeat the five steps (of Part-I) for 'Division branch.

- Create a Division branch and using checkout command to switch substraction branch.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/lab_12/calculator1 (division)
$ git add -A
```

- Stage the Division branch by using git add command.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/lab_12/calculator1 (division)
$ git commit 1st_file -m 'Added line to divide to numbers'
[division 298722d] Added line to divide to numbers
 1 file changed, 1 insertion(+)
```

- Commit the Division branch by using git commit after stage.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/lab_12/calculator1 (division)
$ git push origin division
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 4 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 309 bytes | 309.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
remote:
remote: Create a pull request for 'division' on GitHub by visiting:
remote:      https://github.com/jigger3/calculator1/pull/new/division
remote:
To https://github.com/jigger3/calculator1.git
 * [new branch]      division -> division
```

- Push to github Division branch by using git push origin command.
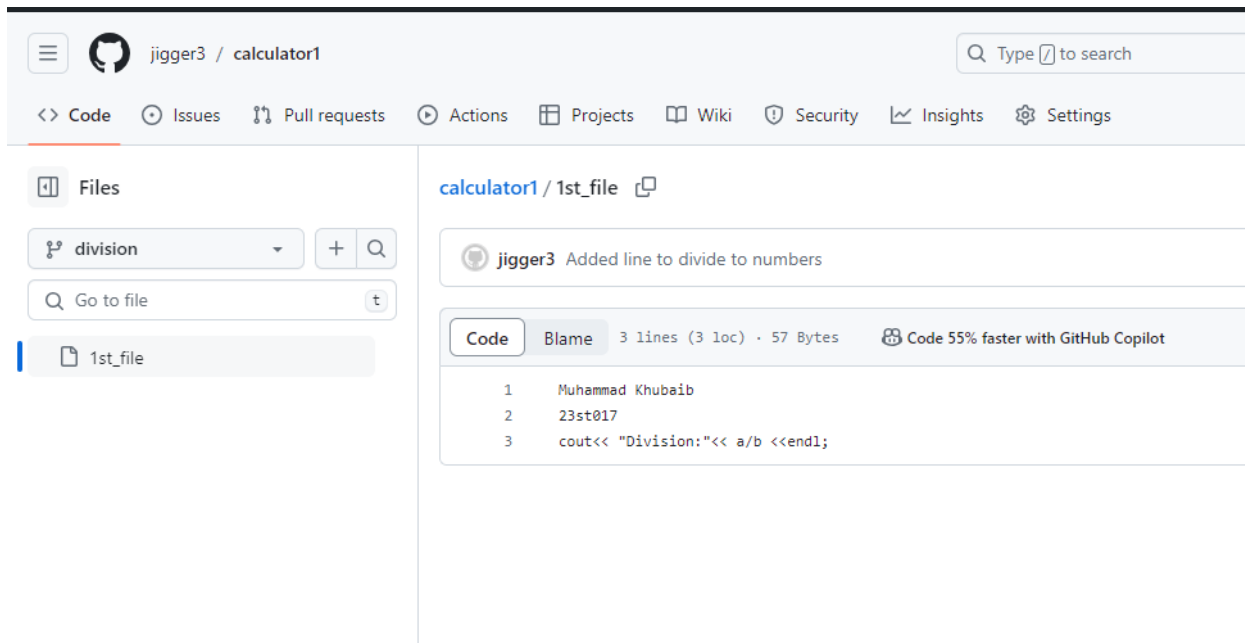
- In github.

Part-VI:

14. Now on GitHub, you need to step-by-step merge the branches into one another.

You will create Pull Requests with proper commits. The sequence is: add ← sub ← mul ← div
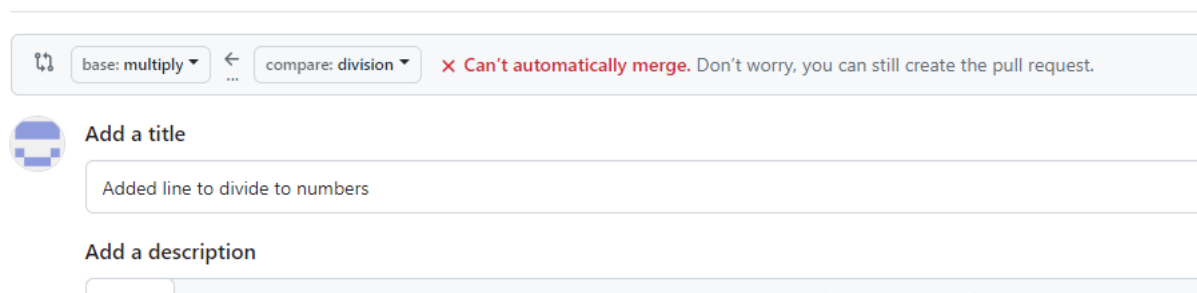
Open a pull request

Create a new pull request by comparing changes across two branches. If you need to, you can also compare across forks. Learn more about diff comparisons her

base: subtraction ▾ ← compare: multiply ▾ ✕ Can't automatically merge. Don't worry, you can still create the pull request.

Add a title

Multiply

Reviewers
No reviews

Add a description

Assignees

Open a pull request

Create a new pull request by comparing changes across two branches. If you need to, you can also compare across forks. Learn more about diff comparis

base: addition ▾ ← compare: subtraction ▾ ✕ Can't automatically merge. Don't worry, you can still create the pull request.

Add a title

added line tosubtract two numbers

Revi
No r

Add a description

| Write | Preview | H B I ≡ <> 𝒫 | ≔ ≔ ≔ | 𝒪 @ 𝒵 ↶ ☐ |

Assi
No c

- Create a pull request according to this: add ← sub ← mul ← div and merge it to main.

15. Now you have updated your GitHub repo. To pull these changes from GitHub,

you will figure out which command works for and explain why: a. git fetch b. git pull

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/lab_12/calculator1 (division)
$ git pull
remote: Enumerating objects: 19, done.
remote: Counting objects: 100% (19/19), done.
remote: Compressing objects: 100% (8/8), done.
remote: Total 11 (delta 1), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (11/11), 4.66 KiB | 60.00 KiB/s, done.
From https://github.com/jigger3/calculator1
   acf0c16..a76a573  addition     -> origin/addition
   298722d..adfa949  division     -> origin/division
   90a5115..6c2b7fa  multiply     -> origin/multiply
   032f373..abf1b3a  subtraction -> origin/subtraction
There is no tracking information for the current branch.
Please specify which branch you want to merge with.
See git-pull(1) for details.

    git pull <remote> <branch>

If you wish to set tracking information for this branch you can do so with:

    git branch --set-upstream-to=origin/<branch> division
```

- Using git pull for updated repo.

GENERALIZED LAB RUBRICS

Domain	Component with Taxonomy	Above Expectation (4)	Meeting Expectation (3)	Approaching Expectation (2)	Below Expectation (1)	Used	Weight / 100 (Optional)	Score (1–4)
Psychomotor	**Building** (Hardware)	Is able to build a given setup neatly and timely using correct hardware components and / or can reorganize / adapt to new / special requirements	Is able to assemble a given setup using correct hardware components after minor revisions	Is only able to copy a given setup using correct hardware components	Is not able to assemble a given setup using correct hardware components	☐		
Cognitive	**Recording Measurements** (Hardware / Software)	Is able to record accurate measurements all the time	Is able to record accurate measurements most of the time	Is only able to record accurate measurements on some occasions	Is unable to record accurate measurements	☐		
	Investigation (Software)	Is able to formulate /develop theories in addition to evaluating /concluding correctly about investigation parameters by assessing data	Is able to evaluate /conclude correctly about investigation parameters by assessing data	Is partially able to evaluate /conclude correctly about investigation parameters by assessing data	Is unable to comprehend investigation parameters	☐		
	Design / Development of Solution (Hardware / Software)	Is able to design / develop the solution of a given problem and add features to it	Is able to design / develop the solution of a given problem	Is able to partially design / develop the solution of a given problem	Is unable to partially design / develop the solution of a given problem	☐		
	Software Usage (Software)	Is adept in the use of software tool and can access advanced features	Is able to use the software tool effectively by accessing all the required features	Is able to use the software tool but cannot access all the required features	Is unable to use the software tool	☐		
	Programming Language (Software)	Is able to efficiently complete a given task using advanced programming language constructs / methods / commands and/or add features to the original task	Is able to complete a given task using required programming language constructs / methods / commands	Is able to partially complete a given task	Is unable to partially complete a given task	☐		

NAME: MUHAMMAD KHUBAIB

ROLL NO: 23ST017

DEPARTMENT: SOFTWARE ENGINNERING TECHNOLOGY

LAB_13

GIT: PUSHING &PULLING OF LOCAL TO REMOTE REPO

1.Create an empty repo on GitHub. Add the README file.

Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere?
Import a repository.

Required fields are marked with an asterisk (*).

Owner *   Repository name *

🖥 jigger3 ▾ / LAB_13

✅ LAB_13 is available.

Great repository names are short and memorable. Need inspiration? How about **legendary-engine** ?

Description (optional)

○ 🖥 **Public**
   Anyone on the internet can see this repository. You choose who can commit.

○ 🔒 **Private**
   You choose who can see and commit to this repository.

Initialize this repository with:

☑ Add a README file
   This is where you can write a long description for your project. Learn more about READMEs.

2.To fork this repo in your local Git account, use the following command: git clone <url>

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_practice (master)
$ git clone https://github.com/jigger3/LAB_13
Cloning into 'LAB_13'...
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Receiving objects: 100% (3/3), done.
```

3.Create a simple text file. Add a little introduction on yourself. Do NOT add your name and roll number.

```
ceiving objects: 100% (3/3), done.

novo@DESKTOP-QSLJNN4 MINGW64 /d/git_practice (master)
notepad file1.txt
```

File1 - Notepad

File Edit Format View Help

I am from Mailsi distric Vehari study in PTUT Lahore
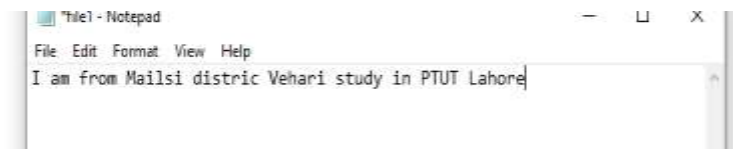
4.Push this file from Git to GitHub. Make sure you have added origin in Git.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_practice/LAB_13 (main)
$ git commit -m 'for push'
[main 17c3dce] for push
 1 file changed, 1 insertion(+)
 create mode 100644 file1.txt

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_practice/LAB_13 (main)
$ git push origin main
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 4 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 324 bytes | 324.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/jigger3/LAB_13
   f7cc30b..17c3dce  main -> main
```

5.In GitHub, verify that your file has been added.
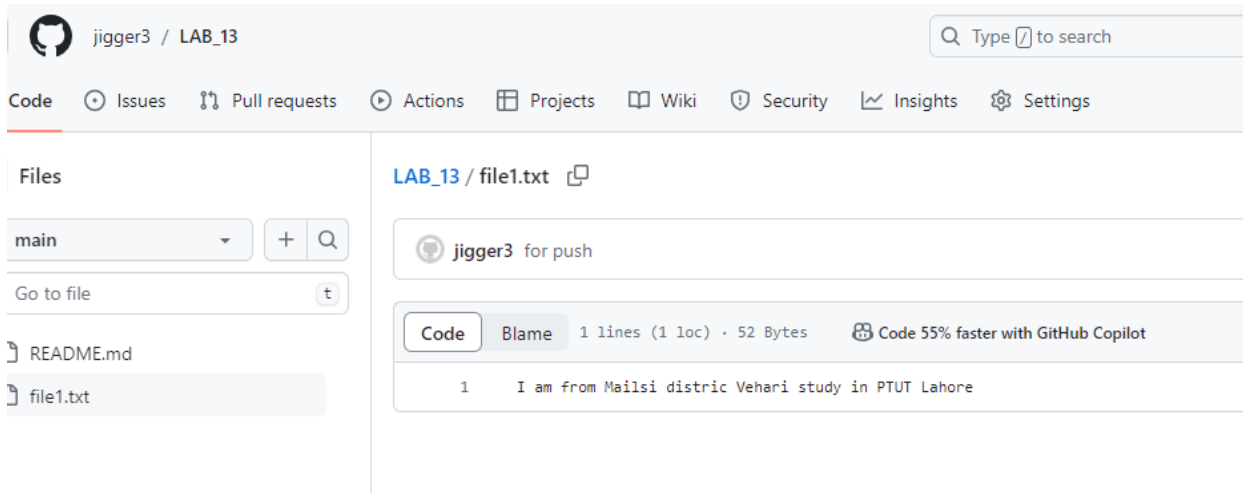
6.In GitHub, add a new file file2 in master branch. In file2, add any description you like.
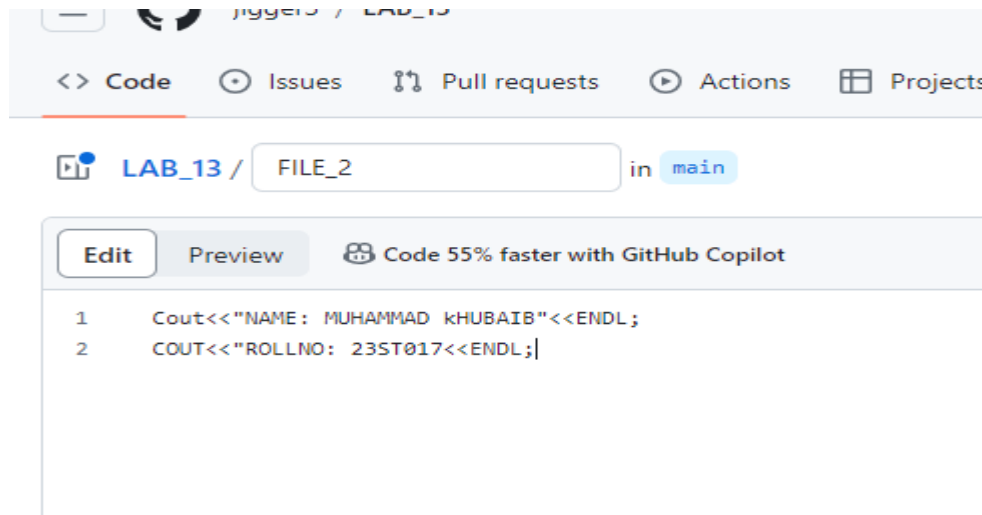
7. GitHub: Create a new branch new_branch from master. In new_branch, create a new file file3. Add your hobbies.
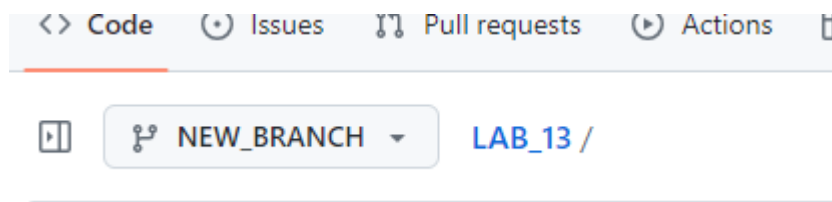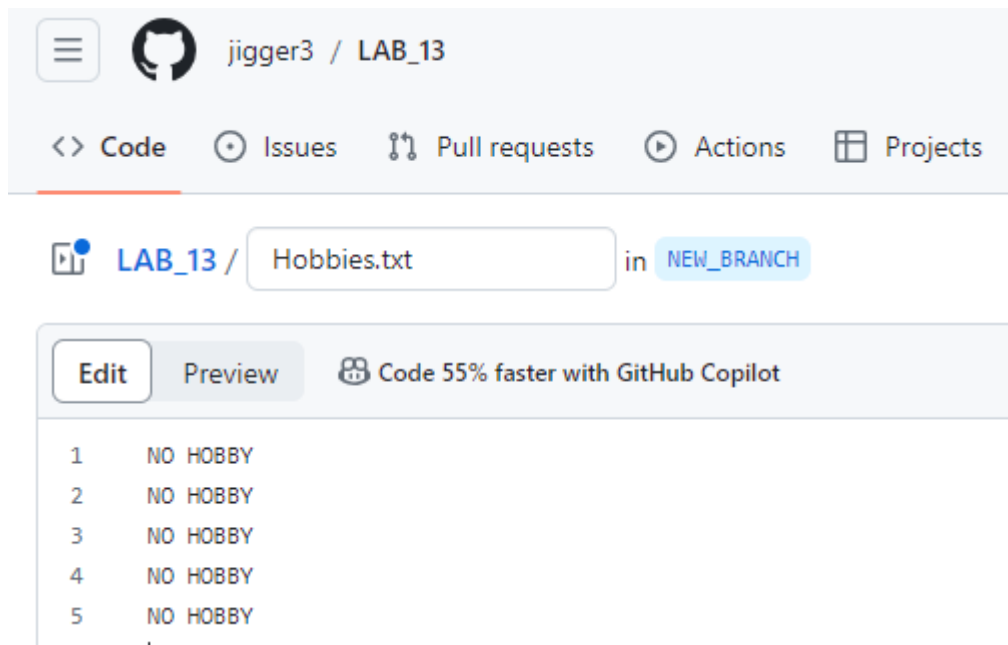
Part-I: Using fetch & merge

8.Git: To see if the remote repo has any (that you do not have), use git fetch. What is the result?

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_practice/LAB_13 (main)
$ git fetch
remote: Enumerating objects: 7, done.
remote: Counting objects: 100% (7/7), done.
remote: Compressing objects: 100% (5/5), done.
remote: Total 6 (delta 1), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (6/6), 1.89 KiB | 42.00 KiB/s, done.
From https://github.com/jigger3/LAB_13
   17c3dce..d05ed45  main          -> origin/main
 * [new branch]      NEW_BRANCH -> origin/NEW_BRANCH
```

9.You should be on master branch. Checkout the difference between the origin and git master using git diff.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_practice/LAB_13 (main)
$ git diff origin/main
diff --git a/FILE_2 b/FILE_2
deleted file mode 100644
index bf88ebd..0000000
--- a/FILE_2
+++ /dev/null
@@ -1,2 +0,0 @@
-Cout<<"NAME: MUHAMMAD kHUBAIB"<<ENDL;
-COUT<<"ROLLNO: 23ST017<<ENDL;
```

10.Using fetch, you only downloaded those changes from GitHub. To apply those changes in your git repo, execute git merge.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_practice/LAB_13 (main)
$ git merge origin/main
Updating 17c3dce..d05ed45
Fast-forward
 FILE_2 | 2 ++
 1 file changed, 2 insertions(+)
 create mode 100644 FILE_2
```

11.Figure out the command (you already executed it in previous labs) to make sure that your git repo is up-to-date with your GitHub repo.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_practice/LAB_13 (main)
$ git status
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean
```

Part-II: Using git pull

12. Git: Now, add a new branch (say nb1) in your repo and add a file in it with any information. This information should NOT be same with any description you added in

any of the previous files.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_practice/LAB_13 (main)
$ git branch nb1

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_practice/LAB_13 (main)
$ git checkout nb1
Switched to branch 'nb1'

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_practice/LAB_13 (nb1)
$ notepad diff_info
```

```
diff_info - Notepad
File  Edit  Format  View  Help
DIFFERENT INFORMATION
FAVOURITE_SUBJECT:
MATH,URDU,ISL ETC.
```

13.By remaining on the nb1 branch, push this branch and file from git to GitHub.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_practice/LAB_13 (nb1)
$ git commit diff_info.txt -m 'diff_info commit'
[nb1 b4126dc] diff_info commit
 1 file changed, 3 insertions(+)
 create mode 100644 diff_info.txt

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_practice/LAB_13 (nb1)
$ git push -u origin nb1
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 4 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 402 bytes | 402.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
remote:
remote: Create a pull request for 'nb1' on GitHub by visiting:
remote:      https://github.com/jigger3/LAB_13/pull/new/nb1
remote:
To https://github.com/jigger3/LAB_13
 * [new branch]      nb1 -> nb1
branch 'nb1' set up to track 'origin/nb1'.
```

14.GitHub: make sure all your files and branches have been pushed from git to GitHub.

15.GitHub: make sure all your branches are merged in your master branch i.e. all branches have the same view of the file.

Network graph

Timeline of the most recent commits to this repository and its network ordered by most recently pushed to

Owners	May
jigger3	
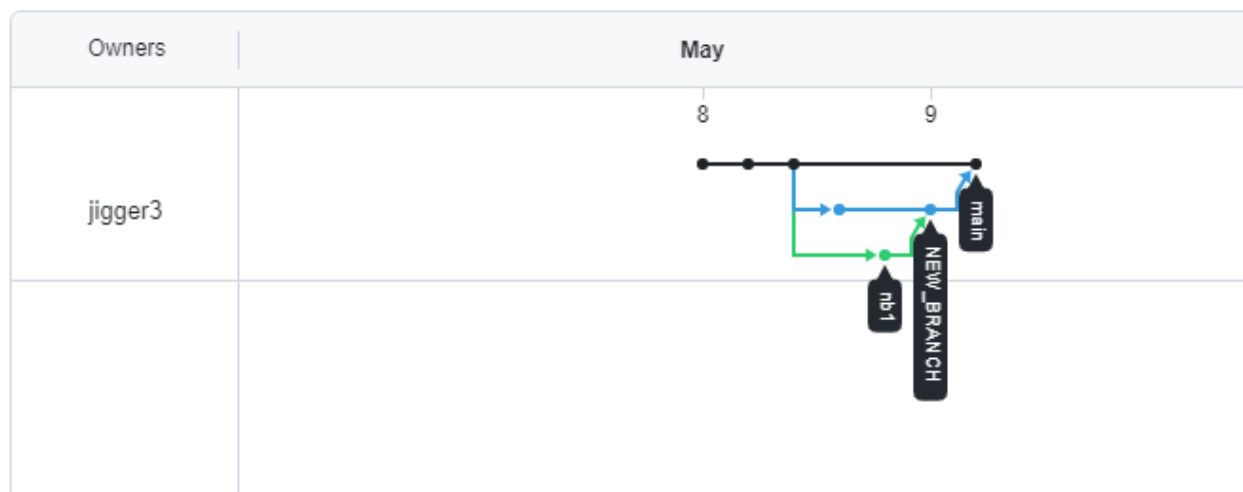
At this stage, your git and GitHub are up-to-date with each other.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_practice/LAB_13 (nb1)
$ git status
On branch nb1
Your branch is up to date with 'origin/nb1'.

nothing to commit, working tree clean
```

16. GitHub: now, change any file in any branch (call this branch x) in GitHub. Save and commit that file

Files

⌱ main   ⌄   +   Q

Q Go to file   t

▢ FILE_2
▏ ▢ Hobbies.txt
▢ README.md
▢ diff_info.txt
▢ file1.txt

LAB_13 / Hobbies.txt ⎘

🖧 jigger3 Update Hobbies.txt ⚏

Code   Blame   6 lines (6 loc) · 57 Bytes   🔁 Code 55% faste

```
1        NO HOBBY
2        NO HOBBY
3        NO HOBBY
4        NO HOBBY
5        NO HOBBY
6        Sariki Song
```
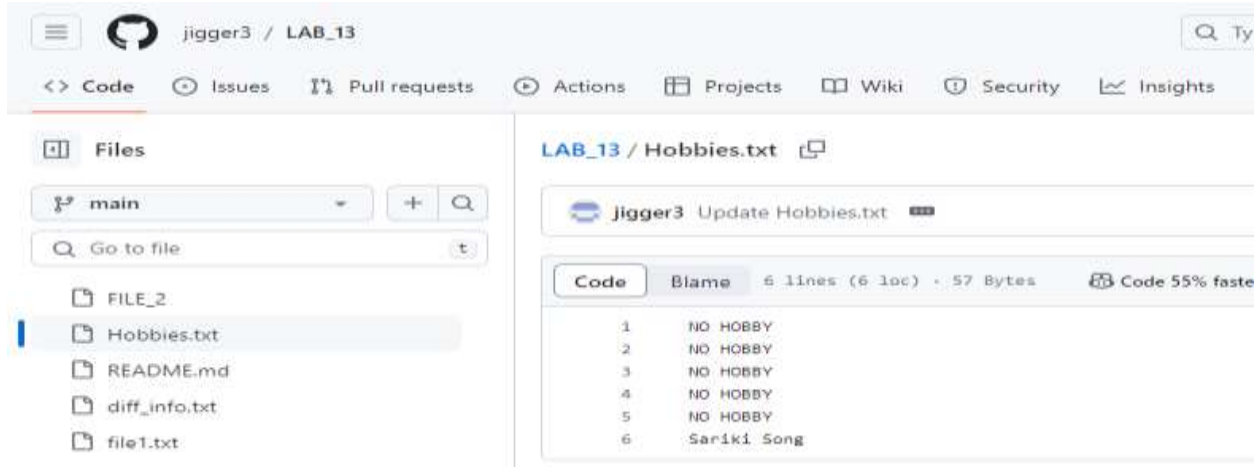
17. Now, go to branch x in Git and check the status. What is your result?

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_practice/LAB_13 (nb1)
$ git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_practice/LAB_13 (main)
$ git status
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean
```

18. Now apply git pull. This should bring your change (you made in Step 16) to Git.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_practice/LAB_13 (main)
$ git pull
remote: Enumerating objects: 10, done.
remote: Counting objects: 100% (10/10), done.
remote: Compressing objects: 100% (6/6), done.
remote: Total 6 (delta 2), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (6/6), 2.72 KiB | 99.00 KiB/s, done.
From https://github.com/jigger3/LAB_13
   d05ed45..4bf351a  main          -> origin/main
   aa58899..037bed3  NEW_BRANCH -> origin/NEW_BRANCH
Updating d05ed45..4bf351a
Fast-forward
 Hobbies.txt    | 6 ++++++
 diff_info.txt | 3 +++
 2 files changed, 9 insertions(+)
 create mode 100644 Hobbies.txt
 create mode 100644 diff_info.txt
```

19. Check the status again.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_practice/LAB_13 (main)
$ git status
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_practice/LAB_13 (main)
$ |
```

20. To make sure you are seeing all the commits, apply git log.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_practice/LAB_13 (main)
$ git log
commit 4bf351a4bd2fafbf68fe2e95b681fc1c63c1e10a (HEAD -> main, origin/main, origin/HEAD)
Author: jigger3 <160100621+jigger3@users.noreply.github.com>
Date:   Wed May 8 23:14:02 2024 -0700

    Update Hobbies.txt

    change in hobbies.txt

commit d7fe75371687f896200abc89f926014fca9b1efe
Merge: d05ed45 037bed3
Author: jigger3 <160100621+jigger3@users.noreply.github.com>
Date:   Thu May 9 11:02:21 2024 +0500

    Merge pull request #2 from jigger3/NEW_BRANCH

    New branch

commit 037bed3ab6d250fa3afcc1409bd279db59826143 (origin/NEW_BRANCH)
Merge: aa58899 b4126dc
Author: jigger3 <160100621+jigger3@users.noreply.github.com>
Date:   Thu May 9 10:57:11 2024 +0500

    Merge pull request #1 from jigger3/nb1

    diff_info commit

commit b4126dcf9616c67c043f9f85cba962041be4b8d6 (origin/nb1, nb1)
Author: jigger3 <23-st-017@ptut.edu.pk>
Date:   Wed May 8 22:47:55 2024 -0700

    diff_info commit

:...skipping...
commit 4bf351a4bd2fafbf68fe2e95b681fc1c63c1e10a (HEAD -> main, origin/main, origin/HEAD)
Author: jigger3 <160100621+jigger3@users.noreply.github.com>
Date:   Wed May 8 23:14:02 2024 -0700

    Update Hobbies.txt

    change in hobbies.txt

commit d7fe75371687f896200abc89f926014fca9b1efe
Merge: d05ed45 037bed3
Author: jigger3 <160100621+jigger3@users.noreply.github.com>
Date:   Thu May 9 11:02:21 2024 +0500

    Merge pull request #2 from jigger3/NEW_BRANCH

    New branch
```

```
commit 037bed3ab6d250fa3afcc1409bd279db59826143 (origin/NEW_BRANCH)
Merge: aa58899 b4126dc
Author: jigger3 <160100621+jigger3@users.noreply.github.com>
Date:    Thu May 9 10:57:11 2024 +0500

    Merge pull request #1 from jigger3/nb1

    diff_info commit

commit b4126dcf9616c67c043f9f85cba962041be4b8d6 (origin/nb1, nb1)
Author: jigger3 <23-st-017@ptut.edu.pk>
Date:    Wed May 8 22:47:55 2024 -0700

    diff_info commit

commit aa58899cd204ec5e9e71dfb5d66b279b7b7b56bf
Author: jigger3 <160100621+jigger3@users.noreply.github.com>
Date:    Wed May 8 22:26:16 2024 -0700

:...skipping...
commit 4bf351a4bd2fafbf68fe2e95b681fc1c63c1e10a (HEAD -> main, origin/main, origin/HEAD)
Author: jigger3 <160100621+jigger3@users.noreply.github.com>
Date:    Wed May 8 23:14:02 2024 -0700

    Update Hobbies.txt

    change in hobbies.txt

commit d7fe75371687f896200abc89f926014fca9b1efe
Merge: d05ed45 037bed3
Author: jigger3 <160100621+jigger3@users.noreply.github.com>
Date:    Thu May 9 11:02:21 2024 +0500

    Merge pull request #2 from jigger3/NEW_BRANCH

    New branch
commit 037bed3ab6d250fa3afcc1409bd279db59826143 (origin/NEW_BRANCH)
Merge: aa58899 b4126dc
Author: jigger3 <160100621+jigger3@users.noreply.github.com>
Date:    Thu May 9 10:57:11 2024 +0500

    Merge pull request #1 from jigger3/nb1

    diff_info commit

commit b4126dcf9616c67c043f9f85cba962041be4b8d6 (origin/nb1, nb1)
Author: jigger3 <23-st-017@ptut.edu.pk>
Date:    Wed May 8 22:47:55 2024 -0700

    diff_info commit

commit aa58899cd204ec5e9e71dfb5d66b279b7b7b56bf
Author: jigger3 <160100621+jigger3@users.noreply.github.com>
Date:    Wed May 8 22:26:16 2024 -0700

    Create Hobbies.txt

:...skipping...
commit 4bf351a4bd2fafbf68fe2e95b681fc1c63c1e10a (HEAD -> main, origin/main, origin/HEAD)
Author: jigger3 <160100621+jigger3@users.noreply.github.com>
Date:    Wed May 8 23:14:02 2024 -0700

    Update Hobbies.txt

    change in hobbies.txt
```

```
commit d7fe75371687f896200abc89f926014fca9b1efe
Merge: d05ed45 037bed3
Author: jigger3 <160100621+jigger3@users.noreply.github.com>
Date:    Thu May 9 11:02:21 2024 +0500

    Merge pull request #2 from jigger3/NEW_BRANCH

    New branch

commit 037bed3ab6d250fa3afcc1409bd279db59826143 (origin/NEW_BRANCH)
Merge: aa58899 b4126dc
Author: jigger3 <160100621+jigger3@users.noreply.github.com>
Date:    Thu May 9 10:57:11 2024 +0500

    Merge pull request #1 from jigger3/nb1

    diff_info commit

commit b4126dcf9616c67c043f9f85cba962041be4b8d6 (origin/nb1, nb1)
Author: jigger3 <23-st-017@ptut.edu.pk>
Date:    Wed May 8 22:47:55 2024 -0700

    diff_info commit

commit aa58899cd204ec5e9e71dfb5d66b279b7b7b56bf
Author: jigger3 <160100621+jigger3@users.noreply.github.com>
Date:    Wed May 8 22:26:16 2024 -0700

    Create Hobbies.txt

    ADD HOBBY

commit 4bf351a4bd2fafbf68fe2e95b681fc1c63c1e10a (HEAD -> main, origin/main, origin/HEAD)
Author: jigger3 <160100621+jigger3@users.noreply.github.com>
Date:    Wed May 8 23:14:02 2024 -0700

    Update Hobbies.txt

    change in hobbies.txt

commit d7fe75371687f896200abc89f926014fca9b1efe
Merge: d05ed45 037bed3
Author: jigger3 <160100621+jigger3@users.noreply.github.com>
Date:    Thu May 9 11:02:21 2024 +0500

    Merge pull request #2 from jigger3/NEW_BRANCH

    New branch

commit 037bed3ab6d250fa3afcc1409bd279db59826143 (origin/NEW_BRANCH)
Merge: aa58899 b4126dc
Author: jigger3 <160100621+jigger3@users.noreply.github.com>
Date:    Thu May 9 10:57:11 2024 +0500

    Merge pull request #1 from jigger3/nb1

    diff_info commit

commit b4126dcf9616c67c043f9f85cba962041be4b8d6 (origin/nb1, nb1)
Author: jigger3 <23-st-017@ptut.edu.pk>
Date:    Wed May 8 22:47:55 2024 -0700

    diff_info commit
```

```
commit aa58899cd204ec5e9e71dfb5d66b279b7b7b56bf
Author: jigger3 <160100621+jigger3@users.noreply.github.com>
Date:   Wed May 8 22:26:16 2024 -0700

        Create Hobbies.txt

:
commit 4bf351a4bd2fafbf68fe2e95b681fc1c63c1e10a (HEAD -> main, origin/main, origin/HEAD)
Author: jigger3 <160100621+jigger3@users.noreply.github.com>
Date:   Wed May 8 23:14:02 2024 -0700

        Update Hobbies.txt

        change in hobbies.txt

commit d7fe75371687f896200abc89f926014fca9b1efe
Merge: d05ed45 037bed3
Author: jigger3 <160100621+jigger3@users.noreply.github.com>
Date:   Thu May 9 11:02:21 2024 +0500

        Merge pull request #2 from jigger3/NEW_BRANCH

        New branch

commit 037bed3ab6d250fa3afcc1409bd279db59826143 (origin/NEW_BRANCH)
Merge: aa58899 b4126dc
Author: jigger3 <160100621+jigger3@users.noreply.github.com>
Date:   Thu May 9 10:57:11 2024 +0500

        Merge pull request #1 from jigger3/nb1

        diff_info commit

commit b4126dcf9616c67c043f9f85cba962041be4b8d6 (origin/nb1, nb1)
Author: jigger3 <23-st-017@ptut.edu.pk>
Date:   Wed May 8 22:47:55 2024 -0700
```

```
commit b4126dcf9616c67c043f9f85cba962041be4b8d6 (origin/nb1, nb1)
Author: jigger3 <23-st-017@ptut.edu.pk>
Date:   Wed May 8 22:47:55 2024 -0700

        diff_info commit

commit aa58899cd204ec5e9e71dfb5d66b279b7b7b56bf
Author: jigger3 <160100621+jigger3@users.noreply.github.com>
Date:   Wed May 8 22:26:16 2024 -0700
```

.|

21. Verify if this log is up-to-date with GitHub.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_practice/LAB_13 (main)
$ git status
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/git_practice/LAB_13 (main)
$ |
```

GENERALIZED LAB RUBRICS

| Domain	Component with Taxonomy	Above Expectation (4)	Meeting Expectation (3)	Approaching Expectation (2)	Below Expectation (1)	Used	Weight / 100 (Optional)	Score (1–4)
Psychomotor	**Building** (Hardware)	Is able to build a given setup neatly and timely using correct hardware components and / or can reorganize / adapt to new / special requirements	Is able to assemble a given setup using correct hardware components after minor revisions	Is only able to copy a given setup using correct hardware components	Is not able to assemble a given setup using correct hardware components	☐		
Cognitive	**Recording Measurements** (Hardware / Software)	Is able to record accurate measurements all the time	Is able to record accurate measurements most of the time	Is only able to record accurate measurements on some occasions	Is unable to record accurate measurements	☐		
	Investigation (Software)	Is able to formulate /develop theories in addition to evaluating /concluding correctly about investigation parameters by assessing data	Is able to evaluate /conclude correctly about investigation parameters by assessing data	Is partially able to evaluate /conclude correctly about investigation parameters by assessing data	Is unable to comprehend investigation parameters	☐		
	Design / Development of Solution (Hardware / Software)	Is able to design / develop the solution of a given problem and add features to it	Is able to design / develop the solution of a given problem	Is able to partially design / develop the solution of a given problem	Is unable to partially design / develop the solution of a given problem	☐		
	Software Usage (Software)	Is adept in the use of software tool and can access advanced features	Is able to use the software tool effectively by accessing all the required features	Is able to use the software tool but cannot access all the required features	Is unable to use the software tool	☐		
	Programming Language (Software)	Is able to efficiently complete a given task using advanced programming language constructs / methods / commands and/or add features to the original task	Is able to complete a given task using required programming language constructs / methods / commands	Is able to partially complete a given task	Is unable to partially complete a given task	☐		

NAME: MUHAMMAD KHIBAIB

ROLL NO: 23STO17

DEPARTMENT: SOFTWARE ENGINNERING TECHNOLOGY

LAB14

PART-I: Pushing from Git to GitHub

1. In GitHub, fork the hackeruser240/SCM-Spring2024 repo.
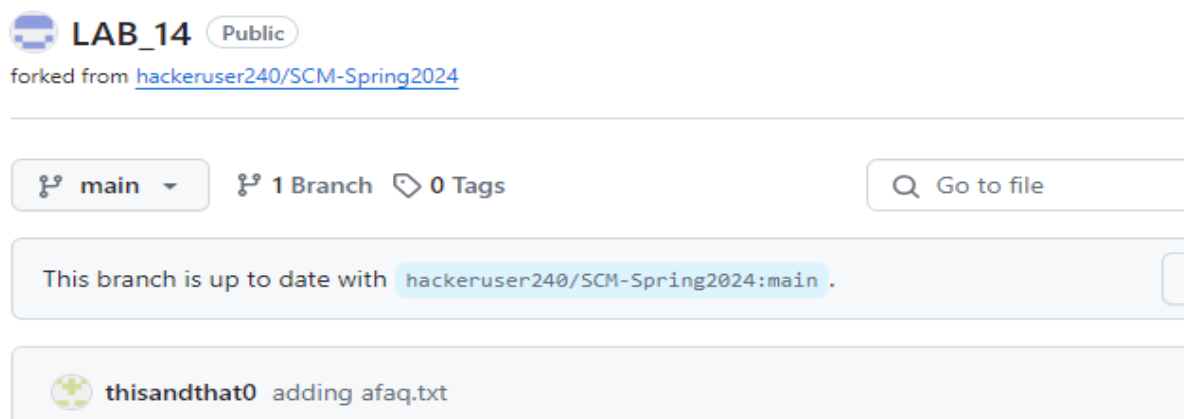
2. Confusing: Go in git and clone your own forked version of hackeruser240/SCM-Spring2024. Your link should look like this:

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d
$ git clone https://github.com/jigger3/LAB_14.git
Cloning into 'LAB_14'...
remote: Enumerating objects: 633, done.
remote: Counting objects: 100% (185/185), done.
remote: Compressing objects: 100% (58/58), done.
remote: Total 633 (delta 169), reused 128 (delta 126), pack-reused 448
Receiving objects: 100% (633/633), 236.92 KiB | 30.00 KiB/s, done.
Resolving deltas: 100% (268/268), done.
```

3. Do git status. Your status should be clean.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d
$ cd /d/LAB_14

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (main)
$ git status
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean
```
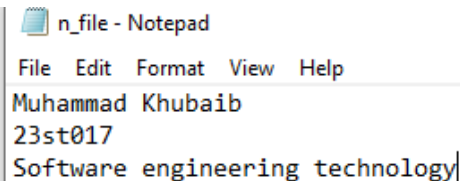
4. If you need to set the origin, you will do it by: git remote set-url origin <set_url>

```
nothing to commit, working tree clean

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (main)
$ git remote set-url origin https://github.com/jigger3/LAB_14.git
```

5. In git, go to main branch and add a new file in that branch.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (main)
$ notepad n_file.txt
```

n_file - Notepad

File   Edit   Format   View   Help

```
Muhammad Khubaib
23st017
Software engineering technology
```

6. Save the file, stage it, and then commit it by adding a meaningful commen

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (main)
$ git add n_file.txt

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (main)
$ git commit n_file.txt -m ' add name roll no and department'
[main e90367b]  add name roll no and department
 1 file changed, 3 insertions(+)
 create mode 100644 n_file.txt

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (main)
$ |
```

7. Now, do git status. What result do you get? Hint: You status should not be 'everything up-to-date'

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (main)
$ git status
On branch main
Your branch is ahead of 'origin/main' by 1 commit.
  (use "git push" to publish your local commits)

nothing to commit, working tree clean
```

8. Caution: Push your code to origin (GitHub) by running the following command Git push origin -u <branch_name>.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (main)
$ git push origin -u main
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 4 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 339 bytes | 339.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local
To https://github.com/jigger3/LAB_14.git
   9667c00..e90367b  main -> main
branch 'main' set up to track 'origin/main'.

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (main)
```
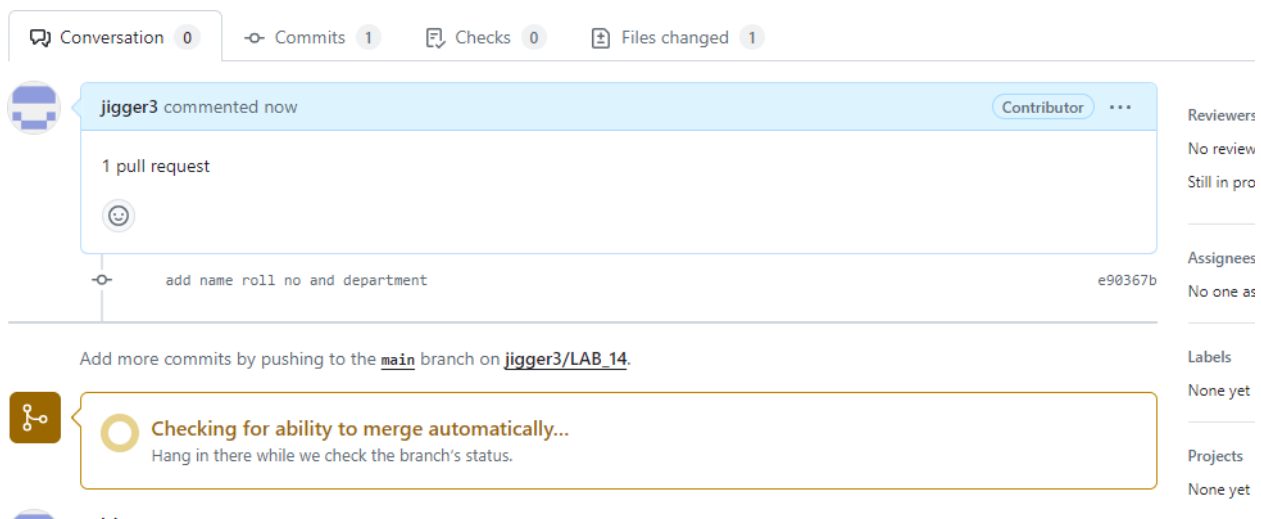
9. In GitHub, you will see a message pop-up in yellow background. Attach its screenshot.
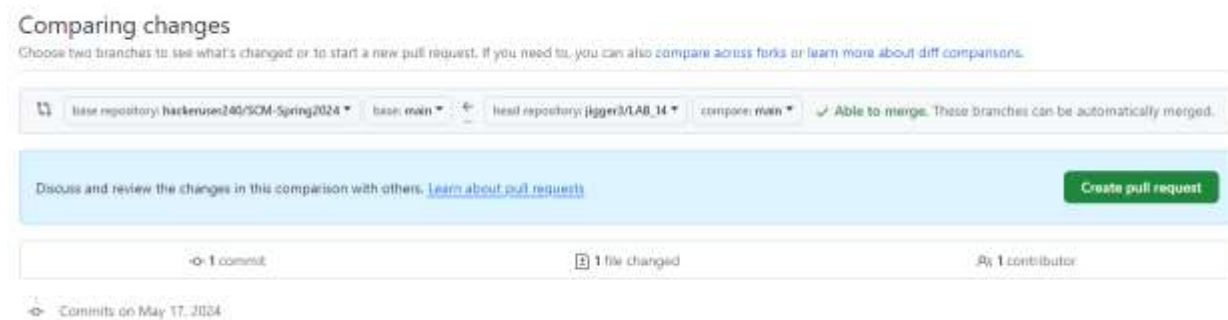
You should a figure something like this:

10. With reference to Step 9, create a Pull Request (via 1 or 2 in the above figure) and submit.

11. Attach your network graph.

Network graph

Timeline of the most recent commits to this repository and its network ordered by most recently pushed to.

Owners

17   16

main

PART-II: Creating a branch & pushing it to GitHub

12. In git, create a new branch and add a new file in it (this file is different from Step 5 file)

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (main)
$ git branch new_branch

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (main)
$ git checkout new_branch
Switched to branch 'new_branch'

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (new_branch)
$ |
```

13. Add any information to it. DO NOT COPY FROM EACH OTHER.

```
2nd_file - Notepad
File   Edit   Format   View   Help
created 2nd file from new branch |
```

14. Save it, close notepad (or VS Code), stage it, and finally commit it using a meaningful comment.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (new_branch)
$ git add 2nd_file.txt

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (new_branch)
$ git commit 2nd_file.txt
Aborting commit due to empty commit message.

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (new_branch)
$ git commit 2nd_file.txt -m 'Add  sample text'
[new_branch 54badd3] Add  sample text
 1 file changed, 1 insertion(+)
 create mode 100644 2nd_file.txt

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (new_branch)
$ |
```

15. Push this branch to GitHub.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (new_branch)
$ git push origin -u new_branch
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 4 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 308 bytes | 308.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
remote:
remote: Create a pull request for 'new_branch' on GitHub by visiting:
remote:      https://github.com/jigger3/LAB_14/pull/new/new_branch
remote:
To https://github.com/jigger3/LAB_14.git
 * [new branch]      new_branch -> new_branch
branch 'new_branch' set up to track 'origin/new_branch'.

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (new_branch)
```

16. Check git status.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (new_branch)
$ git status
On branch new_branch
Your branch is up to date with 'origin/new_branch'.

nothing to commit, working tree clean

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (new_branch)
$ |
```

17. On GitHub, make sure that the branch you have pushed is begin showed. You may have to refresh the page.

18. Caution: Create a pull request to merge this new branch (of your forked repo) into the main branch (of the original repo). If you do not see your change, you will have to troubleshoot your problem.

PART-III: Pulling changes from main branch GitHub

19. In your forked repo in GitHub, go to the main branch.

20. Go to any file in the main branch and add any change you like. Commit the changes to that file in the main branch.
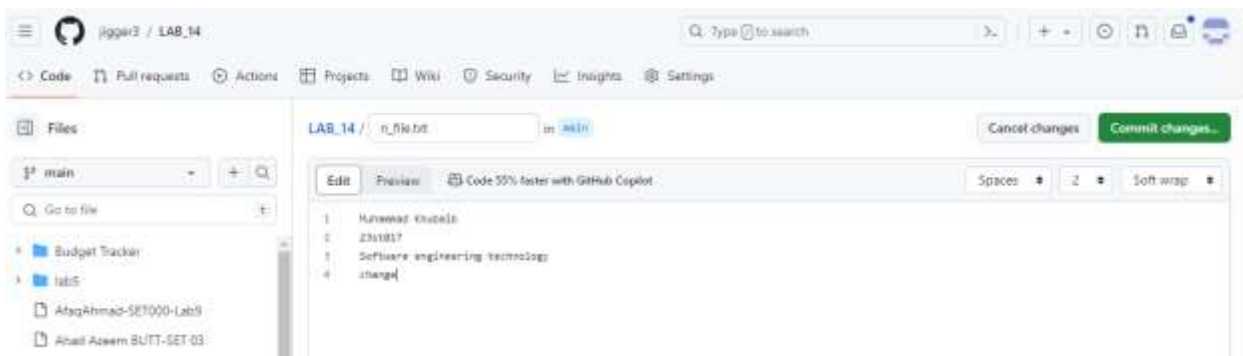
**21. Go to git and check the status. You should be some different i.e. there should be some change in your git and github.**

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (main)
$ git status
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean
```

22. In github, you should see the 'Commit' tab. Open the commits and attach a screenshot of the list of commits made.
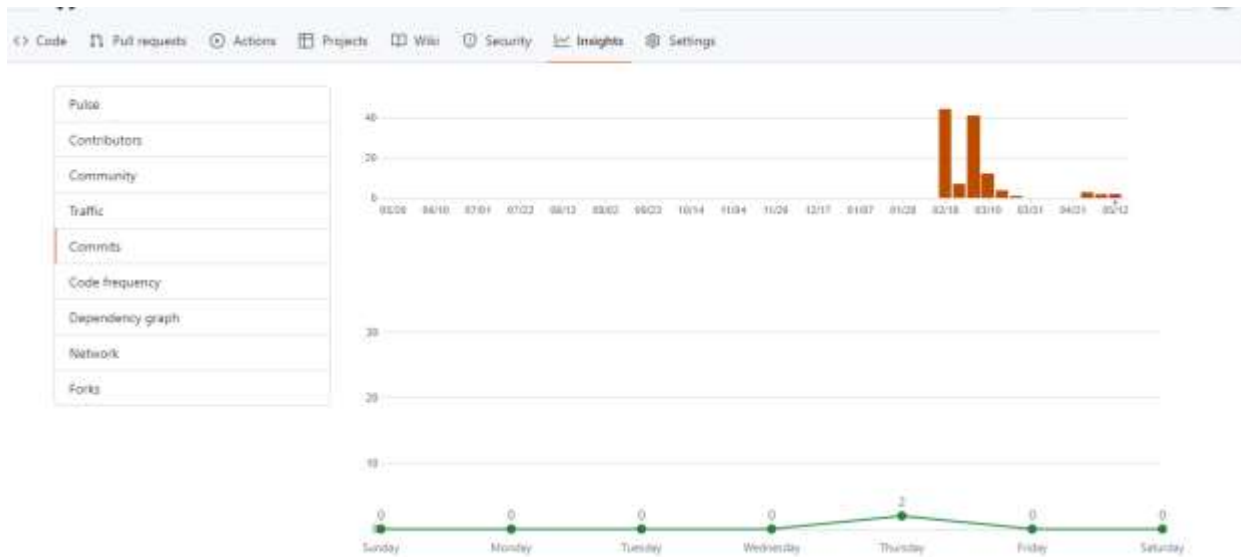
23. Now, go to git and do git fetch on your main branch. You should get some result. If you do not see some result, you have done something wrong. Troubleshoot your problem.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (main)
$ git fetch
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 3 (delta 1), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 977 bytes | 14.00 KiB/s, done.
From https://github.com/jigger3/LAB_14
   e90367b..a4eade7  main         -> origin/main
```

24. Do git merge.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (main)
$ git merge
Updating e90367b..a4eade7
Fast-forward
 n_file.txt | 3 ++-
 1 file changed, 2 insertions(+), 1 deletion(-)

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (main)
$ |
```

25. Again, do git status. Your git repo should be up-to-date.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (main)
$ git status
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (main)
$ |
```
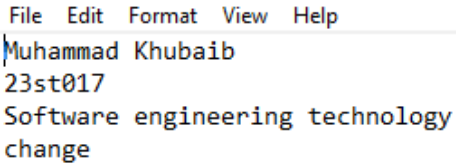
26. Open your file (the file of Step 20) and verify if the change you made in Step 20 has been updated in your local repo.

```
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (main)
$ notepad n_file.txt
```

File   Edit   Format   View   Help

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change

27. Do git log. The list should be the same as Step 22.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (main)
$ git log
commit a4eade7b839d1510b4aeae7f369bddb16456aa73 (HEAD -> main, origin/main, origin/HEAD)
Author: jigger3 <160100621+jigger3@users.noreply.github.com>
Date:   Thu May 16 20:10:59 2024 -0700

    Update n_file.txt

    change in n_file

commit e90367b17309970538eea5bb726755cfa146f160
Author: jigger3 <23-st-017@ptut.edu.pk>
Date:   Thu May 16 19:44:26 2024 -0700

     add name roll no and department

commit 9667c00289a46916f7c905e0e1b081551bbe0ddc
Author: thisandthat0 <afaq.ahmad@ptut.edu.pk>
Date:   Wed May 8 22:18:06 2024 +0500

    adding afaq.txt

commit 314d24bede3d36d39f8dce1468332728f501e258
Merge: 8ba04be 1ac553a
Author: hackeruser240 <71189056+hackeruser240@users.noreply.github.com>
Date:   Wed May 8 21:19:42 2024 +0500

    Merge pull request #350 from thisandthat0/main

    Adding 'Budget Tracker' Project

commit 1ac553a9de0fd2522a7c844b7a97e4f6c7336af8
Author: thisandthat0 <160644702+thisandthat0@users.noreply.github.com>
Date:   Wed May 8 21:17:39 2024 +0500

    Create Main

    Budget Tracker

commit 8ba04be5f20fac5fd82944b1ee63aeb7e356f36e
Merge: 0091039 8b9f12d
Author: hackeruser240 <71189056+hackeruser240@users.noreply.github.com>
Date:   Wed May 1 23:42:49 2024 +0500

    Merge pull request #348 from hackeruser240/afaq

    ADD: adding a new file with some edits
```
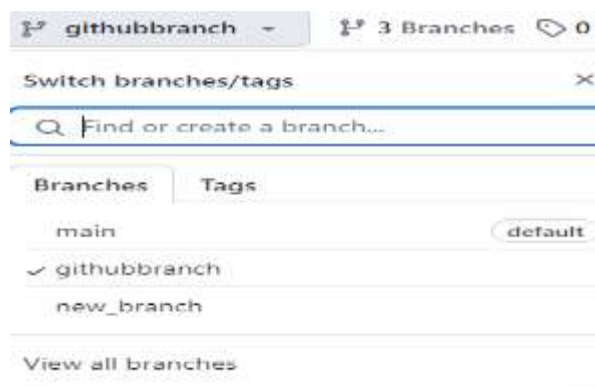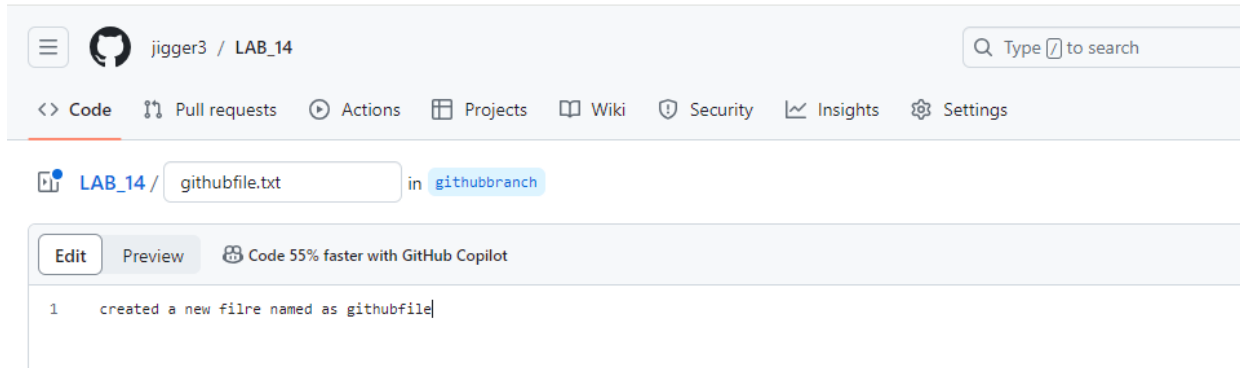
28. In github, create a new branch from main and add a new file with any information.

<> Code   ⑂ Pull requests   ▷ Actions   ⊞ Projects   📖 Wiki   ⊘ Security   ⩘ Insights   ⚙ Settings

LAB_14 /   githubfile.txt   in `githubbranch`

Edit   Preview   🐙 Code 55% faster with GitHub Copilot

```
1    created a new filre named as githubfile
```

29. In git, go to you main branch and do git fetch.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (main)
$ git fetch
remote: Enumerating objects: 4, done.
remote: Counting objects: 100% (4/4), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 1), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 960 bytes | 13.00 KiB/s, done.
From https://github.com/jigger3/LAB_14
 * [new branch]      githubbranch -> origin/githubbranch
```

30. To view the list of branches, execute the command: git branch –a Note that the -a option indicates all the branches in git and github.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (main)
$ git branch -a
* main
  new_branch
  remotes/origin/HEAD -> origin/main
  remotes/origin/githubbranch
  remotes/origin/main
  remotes/origin/new_branch
```

31. You should see the Github branches in red color.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (main)
$ git branch -a
* main
  new_branch
  remotes/origin/HEAD -> origin/main
  remotes/origin/githubbranch
  remotes/origin/main
  remotes/origin/new_branch
```

32. Go to the new branch in Git using git checkout.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (main)
$ git checkout githubbranch
Switched to a new branch 'githubbranch'
branch 'githubbranch' set up to track 'origin/githubbranch'.

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (githubbranch)
```

33. Finally, on the new branch, check the contents of the branch using dir command. Attach a screenshot.

```
lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (githubbranch)
$ dir
AfaqAhmad-SET000-Lab9    Budget\ Tracker    GitTraining.txt  Lab-5    README.md  file_ibtihaj027  githubfile.txt  lab5   my_items
Ahad\ Azeem\ BUTT-SET\ 03  Faseeh\ UL\ Hassan  Grocery\ Items  New\ File  afaq.txt  first_file     hh.txt          lab_5  n_file.txt

lenovo@DESKTOP-QSLJNN4 MINGW64 /d/LAB_14 (githubbranch)
$ |
```

- **18 files show.**

34. To verify this, go to github and navigate to the same branch. Attach a screenshot of the contents of that branch. These contents should be the same as Step 33.

- **18 files show.**

GENERALIZED LAB RUBRICS

Domain	Component with Taxonomy	Above Expectation (4)	Meeting Expectation (3)	Approaching Expectation (2)	Below Expectation (1)	Used	Weight / 100 (Optional)	Score (1–4)
Psychomotor	**Building** (Hardware)	Is able to build a given setup neatly and timely using correct hardware components and / or can reorganize / adapt to new / special requirements	Is able to assemble a given setup using correct hardware components after minor revisions	Is only able to copy a given setup using correct hardware components	Is not able to assemble a given setup using correct hardware components	☐		
Cognitive	**Recording Measurements** (Hardware / Software)	Is able to record accurate measurements all the time	Is able to record accurate measurements most of the time	Is only able to record accurate measurements on some occasions	Is unable to record accurate measurements	☐		
	Investigation (Software)	Is able to formulate /develop theories in addition to evaluating /concluding correctly about investigation parameters by assessing data	Is able to evaluate /conclude correctly about investigation parameters by assessing data	Is partially able to evaluate /conclude correctly about investigation parameters by assessing data	Is unable to comprehend investigation parameters	☐		
	Design / Development of Solution (Hardware / Software)	Is able to design / develop the solution of a given problem and add features to it	Is able to design / develop the solution of a given problem	Is able to partially design / develop the solution of a given problem	Is unable to partially design / develop the solution of a given problem	☐		
	Software Usage (Software)	Is adept in the use of software tool and can access advanced features	Is able to use the software tool effectively by accessing all the required features	Is able to use the software tool but cannot access all the required features	Is unable to use the software tool	☐		
	Programming Language (Software)	Is able to efficiently complete a given task using advanced programming language constructs / methods / commands and/or add features to the original task	Is able to complete a given task using required programming language constructs / methods / commands	Is able to partially complete a given task	Is unable to partially complete a given task	☐		